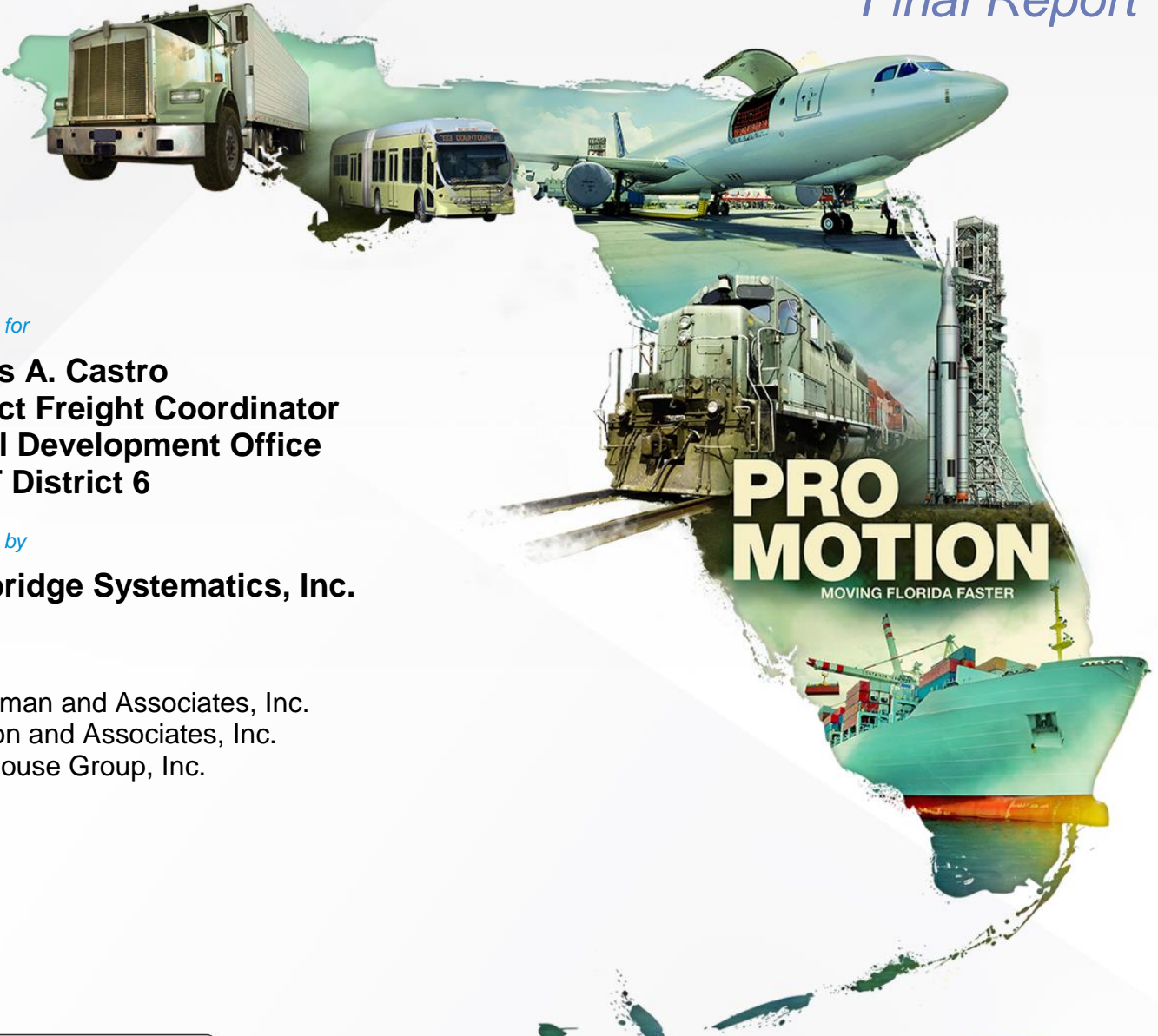


City of Opa-locka Freight Implementation Plan

FM# 435754-3-22-01

Final Report



prepared for

Carlos A. Castro
District Freight Coordinator
Modal Development Office
FDOT District 6

prepared by

Cambridge Systematics, Inc.

with

FR Aleman and Associates, Inc.
Kittelson and Associates, Inc.
Whitehouse Group, Inc.



November 30, 2017

report

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Executive Summary

The City of Opa-locka represents one of Miami-Dade County's key industrial hubs. The City lies in the heart of Miami-Dade County and is surrounded by a robust interstate/expressway system connecting the City to major freight hubs, including PortMiami, the Miami International Airport, and FEC and CSX rail complexes supporting carload and intermodal movements. With a long history of industrial activity, a significant portion of the City is designated for industrial use. These favorable characteristics support logistics, warehousing and distribution activities, as well as heavy industrial operations. Recognizing the opportunity for the City to support the county's growing international trade and logistics industry, the Florida Department of Transportation (FDOT), District 6 (D6), as part of a multi-city program designed to identify key transportation system improvements to promote freight mobility, initiated the **City of Opa-locka Freight Implementation Plan**. This Plan documents existing conditions, identifies key challenges and opportunities, defines and evaluates a range of growth scenarios, and provides a comprehensive list of improvements to support the efficient movement of freight into, out of, within and through the City of Opa-locka.

FDOT's role in promoting and expanding the freight and logistics infrastructure in Miami-Dade County is specifically focused on improvements to the transportation system. Understanding where freight specific improvements are needed requires identification of and performance of key corridors, locations of freight activity centers and their ability to grow and expand, and community and/or environmental concerns related to industrial operations. Growth in demand for transportation system capacity is driven by the private sector and its ability to create and improve business opportunities.

Existing warehousing and distribution sites in the City primarily have older building configurations, and experience tight road access and/or flooding issues. The City permits heavy industrial uses not always allowed in other municipalities, which has led to recycling, salvage, and industrial manufacturing businesses concentrating here. Other challenges for the City of Opa-locka relate to institutional stability, high tax rates, and security concerns, as well as a limited supply of developable land. One major opportunity for the City is the location of a new Amazon distribution center at the Miami-Opa Locka Executive Airport (OPF). This project received final approval and began construction during the development of this Plan. It represents the single largest development of new, state of the industry warehouse/distribution space in the City and is an example of private sector investment with support from the public sector. The development is privately funded and makes use of publically owned land. It will provide a new core of modern infrastructure in the City, likely generating secondary developments on other available airport parcels over the medium term, and has the longer term potential to influence redevelopment of other industrial parcels in the western portion of the City. Many of the recommended short term improvement projects are focused on making sure this new facility has efficient access to its markets without compromising the overall operation of the City's roadway network.

Providing new sites or enhancing existing businesses in other parts of the City will require redevelopment and potentially land assembly. This increases the cost to the private sector and is anticipated to result in a short term focus in more competitive communities, such as Doral and Medley, with redevelopment and reuse in the City of Opa-locka occurring later. As such, this Plan focused on the types of activities and opportunities where private investment is most likely to occur in the shorter term, and the ability to maximize the opportunities of existing businesses. The five key industrial areas identified within Opa-locka were each examined and evaluated for growth and redevelopment potential. The impact of a "most likely" alternative drove the development of transportation improvement projects.

This Plan identifies project and policy recommendations to support the enhancement to and growth of the freight and logistics network in the City of Opa-locka. The transportation projects identified include improvements on roads maintained by FDOT, Miami-Dade County, and the City of Opa-locka. Short, medium and long term projects are summarized below and listed in Table ES.1.

- Short term projects are focused on improving access and circulation in the area surrounding OPF due to the expected opening of the Amazon facility in 2018. Operational improvements to improve signal coordination and truck movements along key corridors also are recommended early due to ease of implementation.
- Medium term projects are projects that would improve access and circulation in the western areas of the City near OPF and Douglas Road. These projects will require coordination with property owners and businesses to improve access management along corridors and improve Cairo Lane and extend NW 127th Street to provide access at NW 32nd Avenue.
- Longer term projects are generally large, capacity adding projects along corridors and at major interchanges. Coordination with MDX or SMART corridor projects are also included in these identified potential projects.
- Other policy recommendations focus on city-wide or program-specific initiatives designed to improve freight mobility in the City, such as developing a truck route network to address freight needs and neighborhood compatibility, capitalizing on the existing heavy industrial base in identified areas, supporting new truck parking facilities, and implementing security programs in designated industrial areas. A full list of these other recommendations are provided in Table ES.2.

Table ES.1 Short, Medium, and Long Term Projects

Name	Project Type	Description	Location	Timeframe
Curtiss St/NW 42 nd Ave	Arterial/Collector	Extend left turn storage lane to 1,000 feet on Curtiss St at WB approach to NW 42 nd Ave; close median at Musick St	Curtiss St. from NW 42 nd Ave east 1,000 feet	Short
Curtiss St/Douglas Rd	Arterial/Collector	Add additional EB right turn lane at Curtiss St and Douglas Rd	Curtiss St at Douglas Rd	Short
Douglas Rd Lanes	Arterial/Collector	Add two additional through lanes on Douglas Rd from 135 th St to 157 th St	Douglas Rd from 135 th St to 157 th St	Short
Douglas Rd Turbo	Arterial/Collector	Convert one NB through lane to a turbo through lane for NB traffic along Douglas Rd at Curtiss St	Douglas Rd South of Curtiss to North of Curtiss	Short
NW 42 nd Ave/135 th St	Arterial/Collector	Add additional SB through lane and exclusive SB right turn lane at NW 42 nd Ave and 135 th St	NW 42 nd Ave at 135 th St	Short
135 th St/NW 42 nd Ave	Arterial/Collector	Add additional receiving lane WB on 135 th St from NW 42 nd Ave SB right turn	135 th St West of NW 42 nd Ave	Short
Douglas Rd Signals	Operations	Improve signal coordination along Douglas Rd	Douglas Rd In Opa-locka	Short
NW 42 nd Ave Signals	Operations	Improve signal coordination along NW 42 nd Ave/Le Jeune Rd	NW 42 nd Ave in Opa-locka	Short
NW 135 th St Signals	Operations	Improve signal coordination along NW 135 th St	NW 135 th St in Opa-locka	Short
NW 27 th Ave Signals	Operations	Improve signal coordination along NW 27 th Ave	NW 27 th Ave in Opa-locka	Short
NW 22 nd Ave Signals	Operations	Improve signal coordination along NW 22 nd Ave	NW 22 nd Ave in Opa-locka	Short
135 th and NW 27 th Ave	Operations	Change EB approach to 1 shared through right + 2 through + 2 left; sign to indicate EB trucks making LT to NB 27 th Ave use outer LT lane only; pull back SBLT stop line, add pavement marking to align new EB through and left turn traffic pattern	NW 135 th St and NW 27 th Ave	Short
NW 42 nd Ave/NW 135 th St Access	Arterial/Collector	Reduce access/close driveways along intersection legs of NW 42 nd Ave/NW 135 th St	NW 42 nd Ave and NW 135 th St within 1000 feet of intersection	Medium
NW 135 th St	Arterial/Collector	Improve access management along NW 135 th St. from NW 42 nd Ave and raise median along NW 135 th St east of Douglas Rd to east of railroad to restrict business access	NW 135 th St	Medium
Douglas Rd/NW 135 th St Access	Arterial/Collector	Reduce access/close driveways along intersection legs of Douglas Rd/NW 135 th St	Douglas Rd and NW 135 th St within 1000 feet of intersection	Medium
Cairo Ln/NW 127 th St	Arterial/Collector	Upgrade Cairo Lane; complete and upgrade NW 127 th St from Cairo Ln to NW 32 nd Ave	Extent of Cairo Ln and NW 127 th St	Medium

Name	Project Type	Description	Location	Timeframe
Douglas/Gratigny	Arterial/Collector	Improve Le Jeune Rd/Douglas Rd access to/from Gratigny interchange	Douglas Rd/ Gratigny Access	Medium
NW 27 th Ave Lanes	Arterial/Collector	Add two additional through lanes on NW 27 th Ave from Opa-locka Blvd to SR-9	NW 27 th Ave from Opa-locka Blvd to SR-9	Long
SR-9/NW 27 th Ave Interchange	Arterial/Collector	Reconstruct SR-9/NW 27 th Ave interchange (coordinate with SMART corridor project)	SR-9/ NW 27 th Ave Interchange	Long
NW 27 th Ave SMART Coordination	Arterial/Collector	Incorporate truck considerations input to SMART NW 27 th Ave project	NW 27 th Ave in Opa-locka	Long
NW 22 nd Ave 2 Lanes	Arterial/Collector	Add two additional through lanes on NW 22 nd Ave from Opa-locka Blvd to SR-9	NW 22 nd Ave from Opa-locka Blvd to SR-9	Long
NW 22 nd Ave 4 Lanes	Arterial/Collector	Add four additional through lanes on NW 22 nd Ave from SR-9 to NW 151 st St	NW 22 nd Ave from SR-9 to NW 151 st St	Long

Source: Cambridge Systematics. Kittelson and Associates.

Table ES.2 Other Recommendations

Recommendation	Description
Implement security program at designated industrial areas	Opa-locka has been plagued with crime, including vandalism and theft. In order to support local businesses, attract new businesses, and promote overall economic development, an area-specific security program should be developed. This would include characteristics such as improved lighting, additional fencing, controlled access, and increased patrols. This could be a business-driven collaboration with support from the City. The business community southwest of the Golden Glades interchange has successfully implemented a similar program using canals, expressways, a limited number of access points, and security patrols to create a safe business environment.
Develop a designated truck route network	Opa-locka consists of a mix of industrial, commercial and residential communities. The City also experiences a significant volume of through truck traffic given its location and established roadway corridors. Today, the City has addressed truck traffic using roadway signs that restrict access along certain streets. A city-wide truck route program should be developed to ensure trucks have efficient access to origins/destinations while minimizing the impact on the community. This program would designate preferred truck routes while also restricting trucks in sensitive communities.
Capitalize on heavy industrial business opportunities	Opa-locka is a unique community in South Florida providing a home for an established heavy industry base (e.g., scrap, recycling). While some communities attract consumer goods related distribution centers, Opa-locka should explore opportunities to grow its heavy industry base within defined areas.
Investigate innovative opportunities for brownfield redevelopment	Opa-locka is home to many contaminated properties making redevelopment difficult in many instances. Given the pro-business environment in place in Florida and the U.S., the City and State should look for opportunities to streamline the process of cleaning and redeveloping properties of this type. This could include proposing new innovative approaches, investigating available grant programs, and partnering with private industry.
Expand operating authority of Miami-Opa Locka Executive Airport	Today, the airport is not able to handle scheduled commercial passenger or cargo flights. Aircraft size are also limited. Given the location, facilities, and runway length and condition, this airport is a severely under-utilized County asset. Over the medium to longer term, the County should re-visit the feasibility of allowing the airport to compete for and handle passenger and cargo operations as a regional reliever to Miami International Airport.
Incentivize and support new truck parking facilities	South Florida has a truck parking space deficit, particularly for over the road truck drivers. Opa-locka is home to several small truck parking facilities. Even so, the trucking community continues to demand greater capacity. The City, in partnership with the County and State, should explore opportunities to stimulate investments in truck parking facilities; this could entail leasing public lands, and streamlining business application efforts.
Identify, support and promote freight and logistics related workforce development programs	High schools, trade schools, colleges and universities, and professional freight businesses and associations provide a variety of educational opportunities from internships, to certificates, to advanced degrees. The City, in partnership with the County and State, should work with the educational community to provide programs for local residents to stimulate employment opportunities. Developments like the Amazon fulfillment center will provide employment for skilled workforce; ensuring local residents have the necessary skills will be critical.
Coordinate with SMART corridor projects to ensure local needs are addressed	The Miami-Dade TPO is advancing its Strategic Miami Area Rapid Transit (SMART) Plan. This Plan is designed to drive investments in the County's transit system and create a "world-class transit system that will support economic growth and competitiveness in the global arena." The North Corridor (#4) runs through the City along NW 27th Avenue. This is a key corridor for trucks, and is forecast to require increased capacity in the future. The City, County and State should coordinate with the SMART program to ensure improvements to this corridor address truck mobility needs.
Preserve and expand access to rail served properties	Opa-locka is served by CSX. CSX provides service along the SFRC. Today, there are few rail served properties in the boundaries of the City. The City, in partnership with the State (the owner of the SFRC), should work with CSX to preserve, and expand when possible, the limited remaining rail served sites.

Recommendation	Description
Improve commuter access from Tri-Rail Station to Amazon facility	With nearly one million square feet of warehouse space coming on-line at the new Amazon fulfillment facility at the Miami-Opa Locka Executive Airport, there will be an increased demand for accessible and connected routes for commuters. While many will use private auto to access the facility, improvements to the transit connections should also be considered. This could consist of new and improved bike and pedestrian facilities along Ali Baba Avenue and other surrounding streets from the station to the airport, as well as the reintroduction of a shuttle service.

Source: Cambridge Systematics.

The City of Opa-locka faces challenges, yet has unique opportunities to benefit the community as well as the regional freight and logistics system. A first step is to ensure the access to and circulation around the Miami-Opa Locka Executive Airport is enhanced to support the new Amazon facility and other potential businesses on other airport parcels. Leveraging the spotlight such a facility brings to the community, with other city-wide programs and policies will assist in growing and retaining businesses in the City. Being prepared and supportive of redevelopment of industrial areas will also increase freight and logistics uses in the area. This Plan outlines ways for FDOT and the City to move forward to maximize Opa-locka's opportunities.

1.0 Introduction and Background

1.1 Background and Purpose

Focused on partnering with local communities to develop subarea freight plans, the Florida Department of Transportation (FDOT), District 6 (D6), has identified a strategy to help advance its freight and logistics program – by developing freight improvement plans at the city level. The City of Opa-locka, one of the leading freight hubs in Miami-Dade County and South Florida, was selected as one of the first communities to go through this process. The main objective of this effort was to “facilitate freight movement in Miami-Dade County” by “investigating freight corridors within the Opa-locka area, and developing a plan of viable alternatives to enhance freight connectivity and minimize conflicts.”

The South Florida region is an industrial hub undergoing significant infrastructure and transportation investments (airport, seaport, railroad, and highway). The key issues facing Opa-locka relate to the rehabilitation and expansion of its industrial infrastructure, upgrading the local roadway network to ensure connectivity between Opa-locka’s facilities and key hubs and markets, balancing stakeholder needs to ensure employees have commuting options, and applying techniques to ensure a sustainable, economically prosperous quality of life. Efforts by D6 to address some of these issues are met with complex circumstances. Many of the investment needs are privately owned (industrial property, rail corridors) and/or are off-State system roadways, complicating D6’s ability to actively invest in these identified key needs. In

FDOT D6’s Freight Improvement Plans – Purpose and Need

In the crosswinds of uncertainty due to the Great Recession and an unforeseen dynamism due to new technologies, Florida’s public and private leaders identified a “once-in-a-generation opportunity” to revitalize and catalyze the State’s economy by becoming a “global hub for trade, logistics, and export-oriented manufacturing activities” (Florida Trade and Logistics Study, 2010). This opportunity came with the completion of the procurement process for the Panama Canal Expansion Project in 2010; a project which promised the world the safe and more frequent passage of container ships carrying approximately 150% to 200% more cargo than before (The Geography of Transport Systems, 2012, <https://people.hofstra.edu/geotrans/eng/ch3en/conc3en/containerhips.html>). This promise and vision of growth comprised the essence of an overarching need for an improved freight infrastructure and logistics system that ensured the mobility of goods and enhanced the economic prosperity of the State.

Since then, Florida has ceased this opportunity with major investments in strategic transportation projects such as the \$667 million PortMiami Tunnel, its first-ever statewide Freight Mobility and Trade Plan (FMTP) fully adopted in 2014 and in support from the Moving Ahead for Progress in the 21st Century Act (MAP-21, P.L. 112-141), innovative programs for employer-driven training and company-specific export developments (Florida: Made for Trade – Florida Trade and Logistics Study 2.0, 2013), and multiple other efforts of statewide, regional, and county scope.

At a granular level, this subarea freight study is the ultimate step in identifying specific needs and improvements that support the State’s vision in becoming a global hub. Miami-Dade County is the most populous of Florida’s 67 counties with a 2016 estimated population of 2.7 million people living in just over 2,400 square miles (approximately 13% of the total state population living on approximately 4.5% of the total area), and growing at a rate approximately 50% faster than the rest of the State. With increasing population come increasing demands for goods movement. Today, the main freight movement within the County originates and terminates along an axis that extends from PortMiami in the east to the rock quarries in the west. This east-west freight belt is comprised of the Miami International Airport (MIA), the Florida East Coast (FEC) Rail Yard, and major warehouse districts along the Dolphin Expressway (SR 836). This unique study, along with its counterparts, will help extract the full potential out of Miami’s existing freight assets while recognizing local opportunities for growth.

addition, this mix of State and non-State-owned facilities impacts available data on volume, performance, needs, and priorities. As a result, a key component to this project was the engagement of Opa-locka staff and private industry, as well as the introduction of creative and innovative solutions to tackle the next generation of public/private sector freight investment strategies.

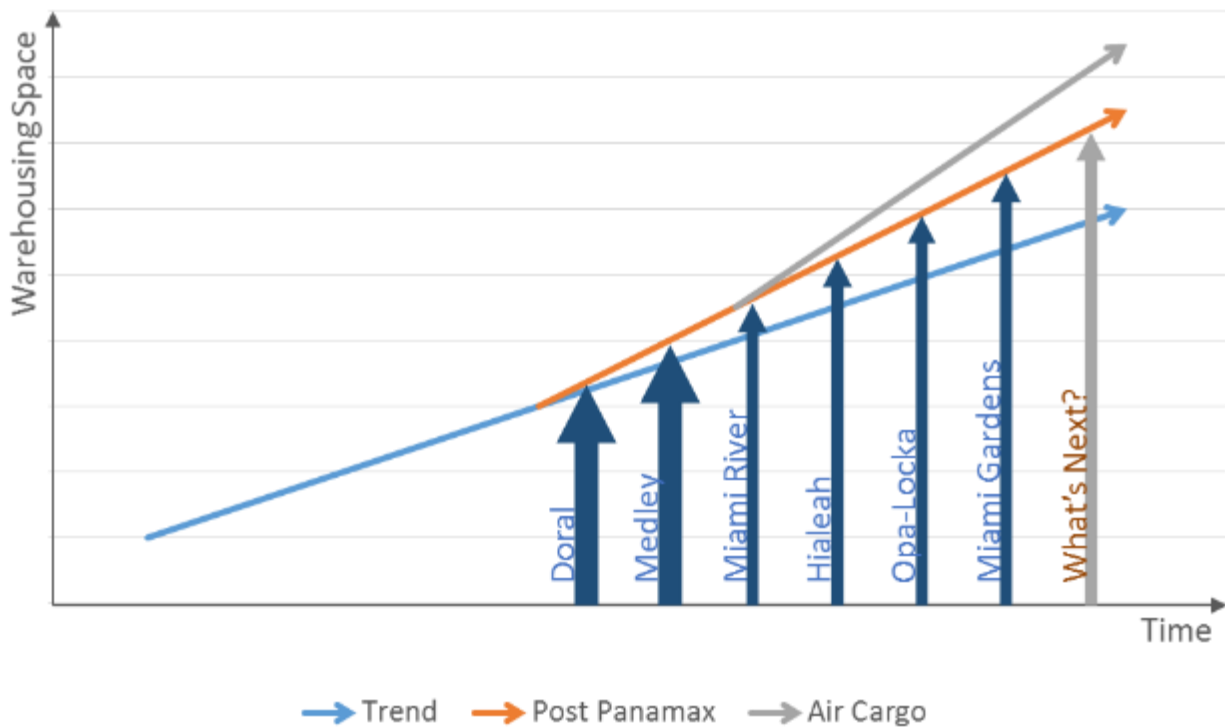
The City of Opa-locka is central to many corridors providing freight access to northwestern Miami-Dade County. Many of these corridors carry trucks within and throughout the City to access the region's expressways, including I-95, State Route (SR) 826/Palmetto Expressway, and SR-924/Gratigny Parkway. The key industrial areas in the City are connected to the major expressways via key arterials including Douglas/Le Jeune Connector, NW 42nd Avenue, NW 22nd Avenue, NW 27th Avenue, NW 135th Street, and SR-9. CSX provides freight rail service, which largely consists of through movements, and rail access/sidings are in active use along the southern border of the City. The Miami-Opa Locka Executive Airport (OPF) has a long history of providing a robust selection of general aviation services for public and private purposes.

The City is densely built out and offers five key industrial areas, with approximately half of the City designated for warehousing and industrial uses. The City of Opa-locka is one of only a few areas in Miami-Dade County that permits heavy industrial uses such as salvage, recycling, and manufacturing, often drawing these types of businesses to settle within the City. Many of the industrial areas were built when the City was first developed in the 1960s and 1970s and opportunities for new warehousing will largely require redevelopment. As such, the City's current role of providing truck parking and smaller, or niche, warehousing is likely to continue in the near term for most of the industrial areas.

OPF and the surrounding area is a major exception.¹ OPF has available vacant land that provides the best short-term opportunities for new warehousing and distribution uses in the City. Miami-Dade Aviation has leased portions of these parcels for both land side and air side development purposes. Currently, Amazon has a new fulfillment center well under construction on the southeast corner of the property. This will consist of almost one million square feet of warehousing, bringing significant job creation to the City and surrounding area, as well as generating significant auto and truck traffic. Additional airside opportunities may be possible if airport policy and regulatory adjustments are considered in the long term.

Surrounding communities (e.g., Medley, Doral) are aggressively positioning themselves to expand their modern warehouse capacity. Opa-locka's unique industrial make up and distribution capacity makes it less likely to attract and serve this growth in the near to medium term time horizons, with the exception being the area surrounding OPF as described above. Warehousing demand in the region is or soon will exceed capacity (see Figure 1.1 as representative of issue), and any opportunities to extend and expand freight and logistics related uses should be encouraged. Most of Opa-locka's freight movements are truck based and road improvements will need to address congestion. Rail-based options exist and could be enhanced with major economic and community development strategies. A small amount of air-based (outgoing) cargo services are currently available and increasing air cargo at OPF is a longer term possibility as mentioned above.

¹ The auto auction and flea market sites in the southwestern portion of the city also offer excellent opportunities for large scale redevelopment given the single-ownership status. However, recent news reports (<https://therealdeal.com/miami/2016/05/20/opa-locka-hialeah-flea-market-under-contract/> <https://www.bizjournals.com/southflorida/news/2017/07/21/public-company-pays-80m-for-opa-locka-hialeah-flea.html>) indicate the new owner wishes to continue to operate the flea market. Redevelopment of these sites with mixed uses is consistent with the City's future land use map which designates these sites as Commercial with a mixed use overlay. These two sites are not included as redevelopment opportunities in the alternatives analysis.

Figure 1.1 Warehousing Demand Over Time

Like many communities, Opa-locka is facing challenges including crime, availability of a trained workforce, aging residential inventory, and quality of life concerns. Infrastructure weaknesses include pavement condition, inadequate geometries/turning radii, poor roadway alignments, and condition of industrial assets. Having a freight implementation plan in place will help the City plan for and invest in key freight projects that complement and contribute to the overall community's vision and quality of life.

The approach to develop the Opa-locka Freight Implementation Plan focused on identifying modal and multimodal mobility strategies for implementation in the short, medium and long term. Strategies address access to freight activity centers as well as corridor level capacity and operational improvements. Projects include roadway improvements such as capacity, geometry, and maintenance; network connectivity improvements such as missing links; technology solutions (e.g., signal timing and prioritization); and redevelopment of existing industrial lands including obsolete warehouse properties (driven by the private sector). This Plan provides D6 with specific recommendations on projects that can be fed into the FMTP and the State's work program, the Miami-Dade Transportation Planning Organization's (TPO) Long Range Transportation Plan (LRTP) and Transportation Improvement Plan (TIP) and the City's capital improvement program. Projects will be submitted to the TPO for consideration in the freight funding set aside in the Miami-Dade TPO's 2045 LRTP. The recommendations largely address roadway improvements; additional recommendations address other modal needs, and regulatory and policy changes.

This subarea freight plan helps set the standard for how D6 engages with its partner communities. With key investments in place (e.g., PortMiami deep dredge, tunnel, post-Panamax cranes) the future success of South Florida will be dependent on the ability of the host communities and their private industrial partners to competitively serve a growing freight and logistics market by providing capacity in and access to warehouse/distribution centers, light and heavy industrial property, and truck parking facilities. In addition,

the subarea plan helps position the City for potential freight projects eligible under the recently passed Fixing America's Surface Transportation (FAST) Act, Strategic Intermodal System (SIS) funds, and competitive grant programs (e.g., Infrastructure For Rebuilding America (INFRA) Grants, Transportation Investment Generating Economic Recovery (TIGER) program, Intermodal Logistics Center (ILC) Grant Support Program).

1.2 Organization of Report

The remainder of this report is organized as follow:

- **Section 2.0, Existing Conditions, Technical Approach, and Scenario Development.** This section summarizes the existing conditions of the freight system in the City of Opa-locka and describes the development of scenarios;
- **Section 3.0, Project Development.** This section describes the process used to develop and test short, medium and long term corridor oriented improvements;
- **Section 4.0, Overview and Recommendations.** This section provides an overview the challenges and opportunities in Opa-locka and presents recommendations; and
- **Appendices.** A series of appendices is provided as reference material for the analyses and findings presented in the final report.

2.0 Existing Conditions, Technical Approach, and Scenario Development

2.1 Freight Implementation Plan Approach

The approach to the City of Opa-locka Freight Implementation Plan focused on evaluating freight and warehousing logistics capabilities in Miami-Dade County and the role the City of Opa-locka has with respect to those services. Figure 2.1 identifies the key steps in the project, namely highlighting local existing conditions, identifying and evaluating scenarios for freight movement and warehousing, engaging public and private stakeholders familiar with freight movement and/or the City, identifying improvements based on needs associated with a “most likely” development alternative, and providing final recommendations.

2.2 Existing Conditions

The City of Opa-locka is part of the greater Miami area, and is located in the north central portion of Miami-Dade County between I-75 and I-95. The City consists of 4.3 square miles and has a population of 16,565 (2015 estimate). Figure 2.2 displays the City, surrounding communities, major road and rail networks, and key freight hubs (e.g., PortMiami, Miami International Airport). The *Existing Conditions Report* in Appendix A provides a thorough description of the transportation, land use, and socio-cultural characteristics of the City. This section highlights a few key factors with the greatest influence on the approach and recommendations.

The Miami-Dade freight network consists of a complex system of roadways, railways, and freight hubs. The City of Opa-Locka is located within Miami-Dade County. The City is surrounded by Interstate-95 to the east, SR 826 (Palmetto Expressway) to the north and west, and SR-924 (Gratigny Parkway) to the south. The northern extent of Opa-Locka is bounded by NW 151st Street (Oriental Boulevard) spanning eastward to NW 17th Avenue and westward to NW 47th Avenue within the Miami-Opa Locka Executive Airport property (which also serves as the City’s western boundary). The southern and eastern boundary of the City of Opa-Locka is aligned as a “step” with the southern boundaries established as NW 119th Street/E 65th Street (from E 47th Avenue to roughly the eastern edge of the SR-924 interchange), NW 127th Street canal (from the SR-924 interchange to SR-9 (NW 27th Avenue)), and SR-916 (NW 135th Street) (from SR-9 to NW 17th Avenue). The Miami International Airport is immediately south of the City and PortMiami is southeast of the City. FEC and CSX also have major railroad infrastructure in the area. CSX provides service on the South Florida Rail Corridor running through the City of Opa-locka and has a warehousing and distribution center south of the City. FEC has rail access to PortMiami with service along the eastern coast and a railyard northwest of the Miami International Airport.

Figure 2.1 Project Approach

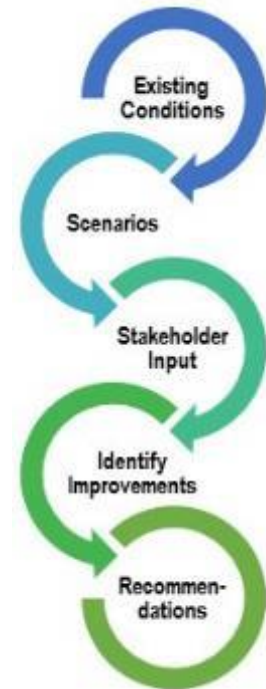
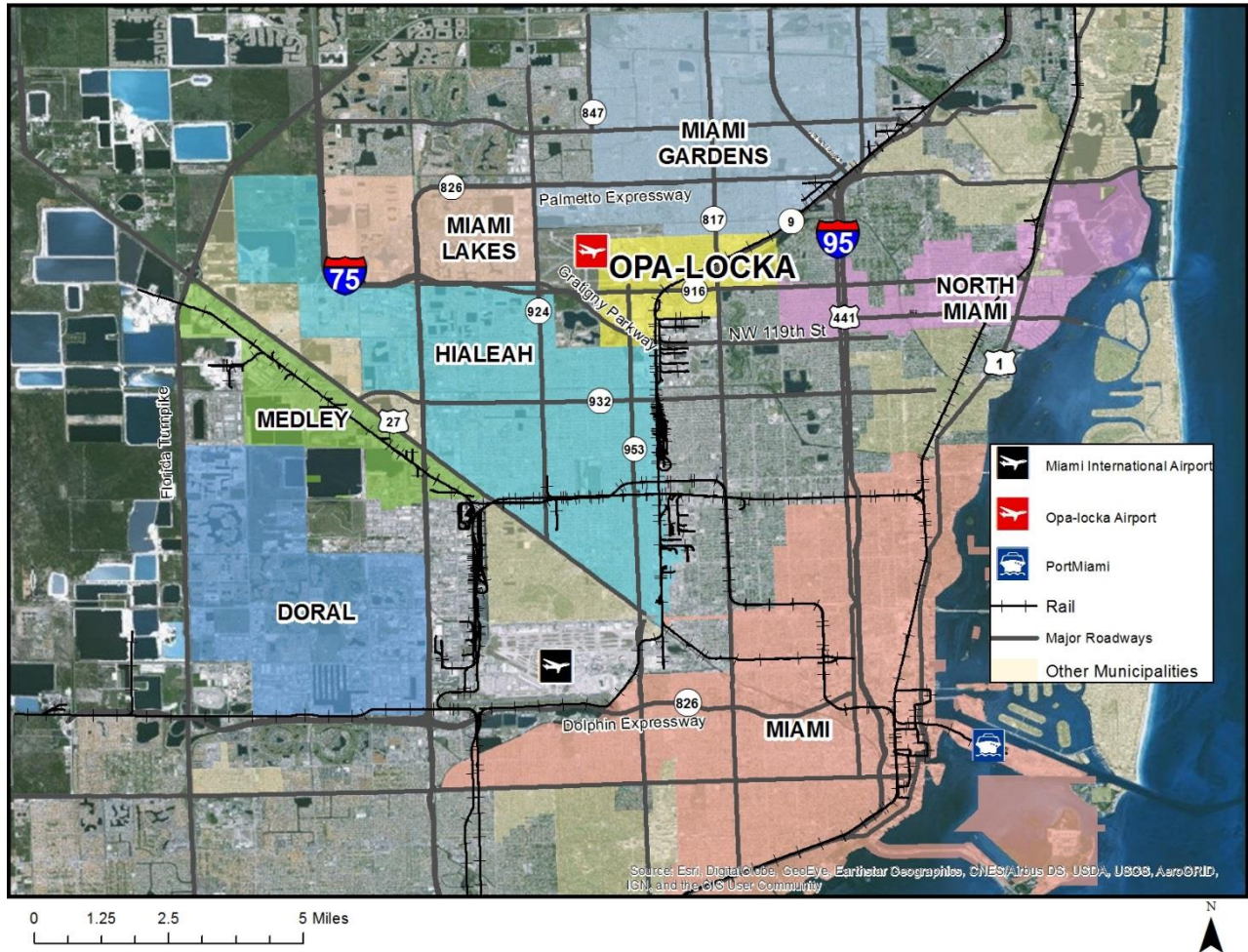
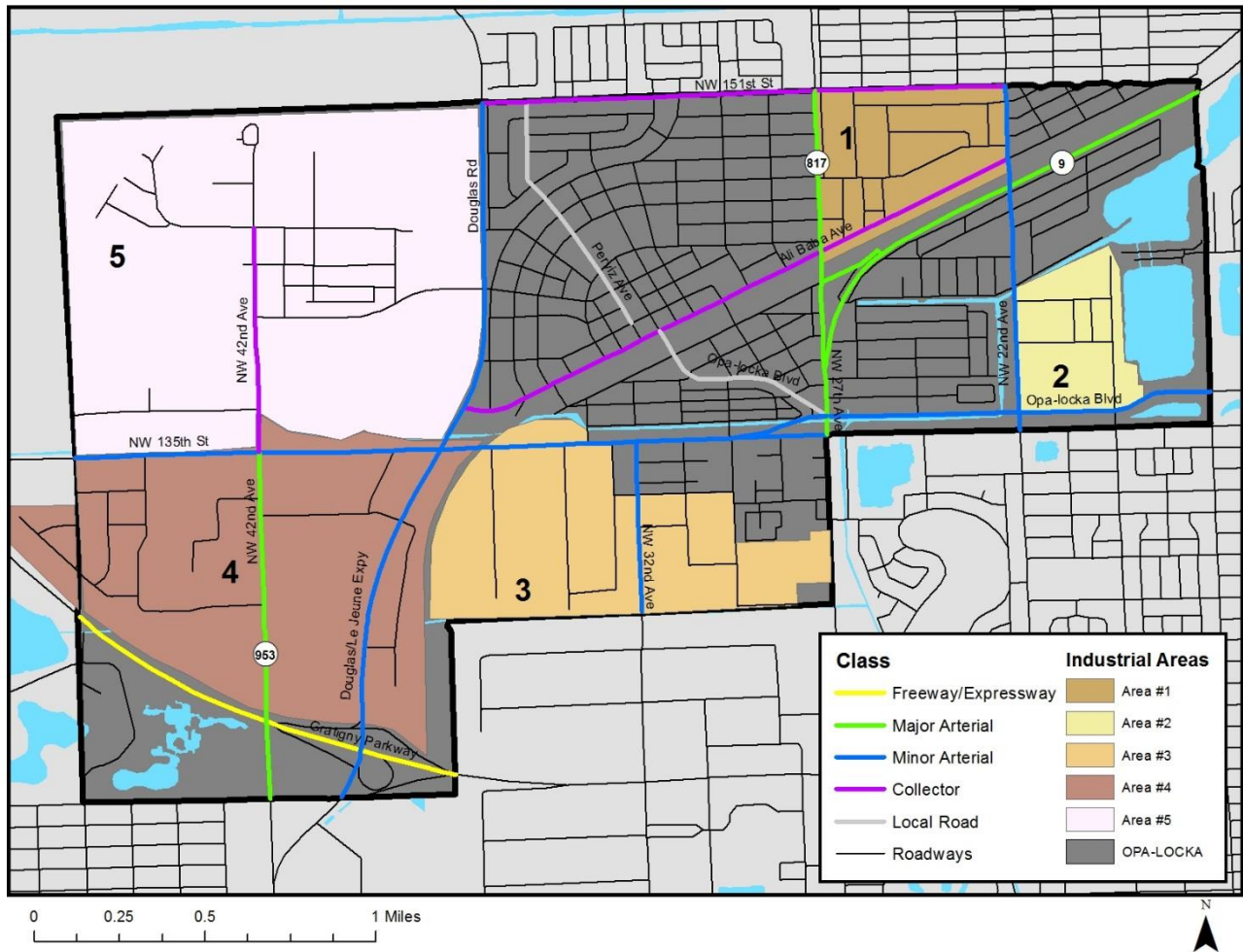


Figure 2.2 City of Opa-locka’s Placement in the Region



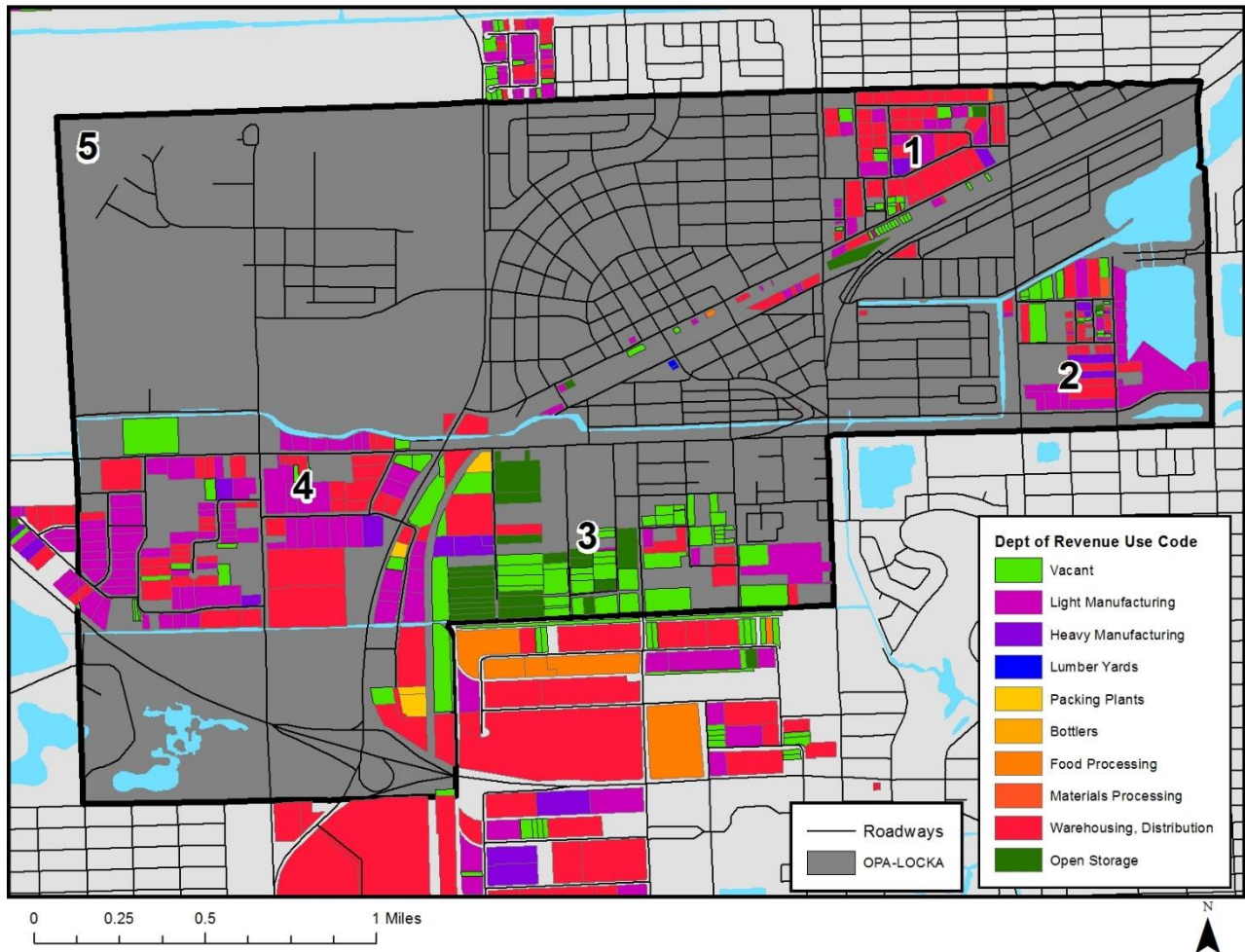
The most traveled north-south road within the City of Opa-Locka is NW 27th Avenue (Unity Boulevard). SR-924 (Gratigny Parkway) is among the more traveled east-west roads providing local connectivity to I-75 and I-95, but has limited length within the study area. SR-916 (NW 135th Street) and its couplet with NW 136th Street (Opa-Locka Boulevard) toward the east side of the City facilitates the east-west traffic flows. Screening the Opa-Locka highway network for bottlenecks and hotspots helps prioritize network improvements based on traffic operations. Figure 2.3 shows the major roads in Opa-locka.

Figure 2.3 City of Opa-locka Roads and Subareas



The City of Opa-locka is almost entirely developed, with most areas containing buildings built in the 1970s and 1980s. Not all parts of the City of Opa-locka are the same. To be able to characterize potential improvements and needs, five industrial subareas were identified as shown in Figure 2.3 based on commonalities. Industrial subareas #1 and #2 primarily provide community oriented industrial uses, such as auto repair, small storage facilities, and warehouse space for non-commercial uses. Subareas #3 and #4 have larger warehousing uses, as well as fabricators, wholesalers, and in the case of Subarea #3 a larger number of auto salvage and recycling facilities. Subarea #4 has commercial uses, including the Opa-locka Flea Market, and this subarea has been expanded slightly outside the City's borders as access to the adjacent subarea requires travel through Opa-locka. Subarea #5 consists of the Miami-Opa Locka Executive Airport and surrounding land. Figure 2.4 shows the existing freight related uses. (Note in Subarea #3, much of the open storage relates to auto salvage types of uses.) The majority of these freight activity centers correspond directly to the industrial subareas shown in Figure 2.3.

Figure 2.4 Freight Facility Database – Land Uses



Source: Florida Department of Transportation’s Freight Facility Database (Florida Dept. of Revenue)

As stated above, there is one main rail track that passes through the City of Opa-locka, parallel to Ali Baba Avenue and east of the Douglas/Le Jeune Connector. The track belonged to CSX in the past and now is owned by FDOT and used for commuter rail (Tri-Rail). CSX however, still runs freight trains on the track under agreements with FDOT. There are a couple of sidings inside the City limits that connect to the main track, and there are more sidings just outside the City limits that have access to the main track as well.

Regarding truck travel, similar to total traffic, the most traveled north-south road within the City of Opa-Locka is NW 27th Avenue (Unity Boulevard). SR-924 (Gratigny Parkway) is among the more traveled east-west roads providing local connectivity to I-75 and I-95, but has limited length within the study area. SR-916 (NW 135th Street) and its couplet with NW 136th Street (Opa-Locka Boulevard) toward the east side of the City facilitates the east-west traffic flows. Figure 2.5 shows segment truck volumes and highlights the intersections with the largest truck volumes.

Figure 2.5 Truck Volumes and High Volume Truck Intersections

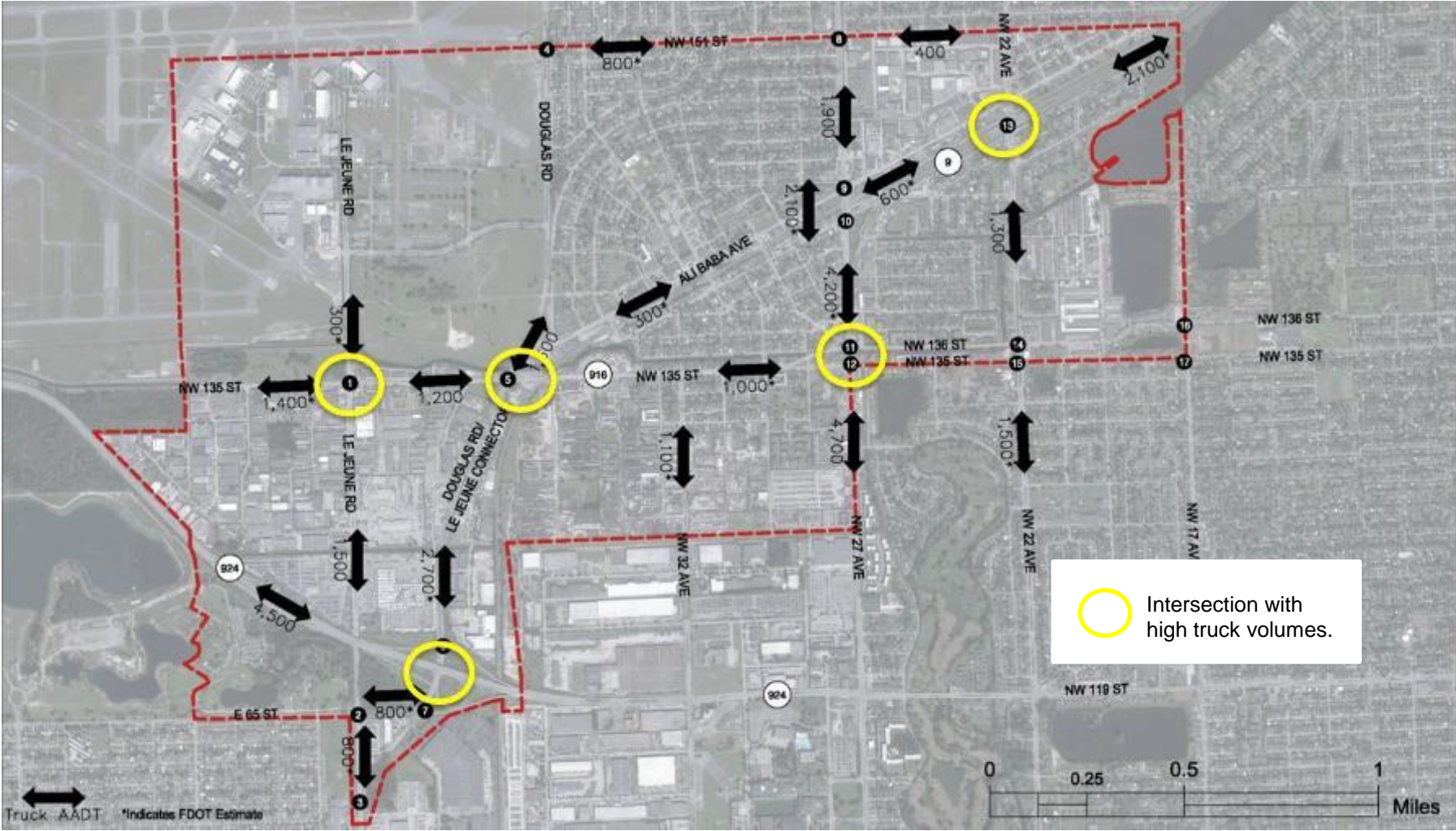


Table 2.1 summarizes existing roadway segment LOS for daily and peak hour conditions. For NW 22nd Avenue between SR-9 and NW 151st Street, the roadway LOS is F for both daily and peak hour conditions. This indicates traffic demand exceeds capacity. The segment is a Class II non-state arterial with four through lanes in both directions. Current posted speed for the segment is 30 mph. Other roadway segments are operating at LOS D or better for daily and peak hour conditions. The LOS standard for state roads is LOS D while county roads in the study area have a standard of LOS E.

Table 2.2 summarizes existing AM and PM Peak intersection operational LOS and Delays. Note that Highway Capacity Manual (HCM) 6 and HCM 2010 reports are not available for quite a few intersections such as NW 42nd Avenue at NW 135th Street, NW 42nd Avenue at Curtiss Street, Douglas/Le Jeune Connector at Alibaba Avenue, and Douglas/Le Jeune Connector at NW 151st Street. Further, some intersections such as Douglas/Le Jeune Connector at NW 135th Street and Douglas/Le Jeune Connector at Langley Road, have HCM 6 and HCM 2010 reports available for existing conditions but not for future conditions analysis. Therefore, LOS and delay using Synchro methodology were applied for consistency. A few intersections currently operating at capacity or over-capacity at times throughout the day are listed below:

- NW 42nd Avenue and NW 135th Street
- Douglas/Le Jeune Connector and E 65th Street
- Douglas/Le Jeune Connector and Westbound Gratigny Parkway
- Douglas/Le Jeune Connector and NW 135th Street
- NW 27th Avenue and NW 135th Street
- NW 22nd Avenue and SR-9

Table 2.1 Existing Roadway Level of Service (2015)

#	Roadway	From	To	LOS Std*	Existing Traffic Volume and LOS			
					FDOT AADT ¹	LOS Daily	DDHV-PeakDir	LOS (Est. Peak Hour)
1	NW 42 nd Ave/Le Jeune Rd	E 56 th St	E 65 th St	D	16,700	C	820	C
2	NW 42 nd Ave/Le Jeune Rd	E 65 th St	SR-916 (NW 135 th St)	D	20,500	C	1,010	C
3	NW 42 nd Ave/Le Jeune Rd	SR-916 (NW 135 th St)	Curtiss St	E	6,300	C	330	C
4	Douglas/Le Jeune Connector	Le Jeune Rd	SR-916 (NW 135 th St)	E	31,000	C	1,530	C
5	Douglas/Le Jeune Connector	NW 135 th St	Ali Baba Ave	E	33,000	C	1,280	C
6	Douglas/Le Jeune Connector	Ali Baba Ave	Curtiss St	E	33,000	C	1,510	C
7	Douglas/Le Jeune Connector	Curtiss St	NW 151 st St	E	33,000	C	1,510	C
8	NW 32 nd Ave	NW 119 th St	SR-916 (NW 135 th St)	E	13,400	C	690	C
9	NW 27 th Ave/SR-9/SR-820	NW 119 th St	SR-916 (Opa-Locka Blvd)	D	43,000	C	2,120	C
10	NW 27 th Ave/SR-9/SR-820	SR-916 (Opa-Locka Blvd)	SR-9 Ramp	D	58,500	D	2,880	C
11	NW 27 th Ave/SR-9/SR-820	SR-9 Ramp	Ali Baba Ave	D	39,000	D	1,920	D
12	NW 27 th Ave/SR-9/SR-820	Ali Baba Ave	NW 151 st St	D	34,500	D	1,700	D
13	SR-9	NW 27 th Ave	NW 22 nd Ave	D	8,300	C	390	C
14	SR-9	NW 22 nd Ave	NW 159 th St	D	25,924	C	1,230	C
15	SR-9	NW 159 th St	Golden Glades Interchange	D	31,000	C	1,530	C
16	NW 22 nd Ave	NW 119 th St	NW 135 th St (Opa-Locka Blvd)	E	17,900	C	920	C
17	NW 22 nd Ave	NW 135 th St (Opa-Locka Blvd)	SR-9	E	30,000	C	1,260	C
18	NW 22 nd Ave	SR-9	NW 151 st St	E	33,900	F	1,590	F
19	NW 151 st St	Douglas/Le Jeune Connector	NW 27 th Ave	E	9,000	C	460	C
20	NW 151 st St	NW 27 th Ave	NW 22 nd Ave	E	11,000	C	470	C
21	Curtiss St	NW 42 nd Ave	Douglas/Le Jeune Connector	E	6,600	C	340	C
22	Ali Baba Ave	Douglas/Le Jeune Connector	NW 27 th Ave	E	3,600	C	190	C
23	Ali Baba Ave	NW 27 th Ave	NW 22 nd Ave	E	2,300	C	120	C
24	SR-916 (NW 135 th St)	NW 57 th Ave/Red Road	Le Jeune Rd	D	29,500	C	1,450	C
25	SR-916 (NW 135 th St)	Le Jeune Rd	Douglas/Le Jeune Connector	D	21,500	C	1,060	C
26	SR-916 (NW 135 th St)	Douglas/Le Jeune Connector	NW 27 th Ave	D	21,600	C	1,060	C
27	SR-916 (NW 135 th St)	NW 27 th Ave	NW 22 nd Ave	D	21,100	C	1,040	C
28	SR-924 (Gratigny Parkway)	NW 57 th Ave/Red Road	Douglas/Le Jeune Connector	D	47,500	B	2,210	B
29	NW 119 th St/E 65 th St	Douglas/Le Jeune Connector	NW 27 th Ave	E	11,500	C	590	C
30	E 65 th St	Le Jeune Rd	Douglas/Le Jeune Connector	E	11,700	C	600	C

Notes

*LOS Std = Segment-level LOS standard based on facility type per 2012 FDOT Generalized Service Volume Tables

¹FDOT AADT - AADT taken from FDOT traffic counters

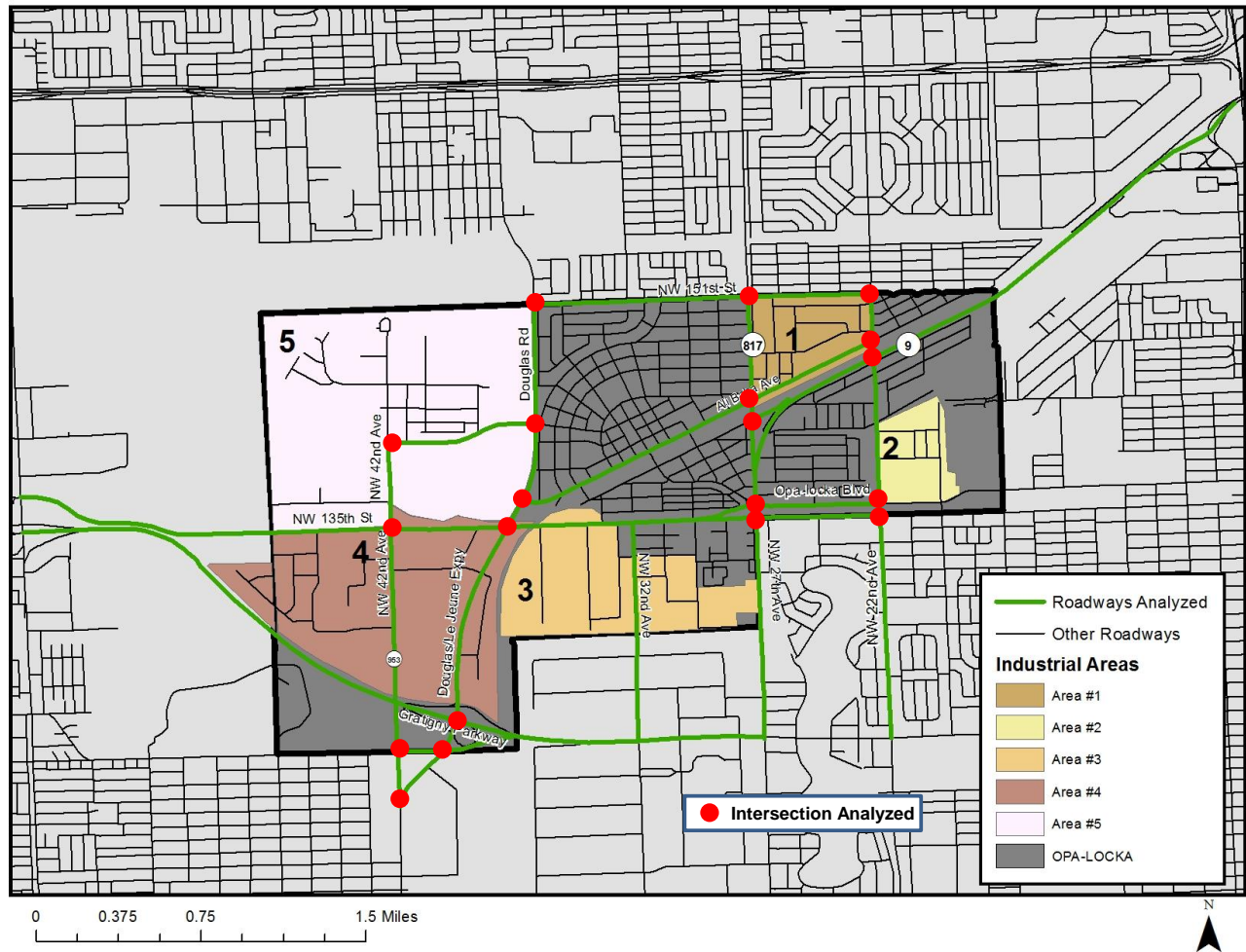
Source: Cambridge Systematics.

Table 2.2 Existing Intersection Operational Conditions LOS and Delay

#	Intersection	Existing LOS and Delay			
		AM		PM	
		LOS	Delay (sec)	LOS	Delay (sec)
1	NW 42 nd Ave and Douglas/Le Jeune Connector	C	20.3	B	19.8
2	NW 42 nd Ave and E 65 th St	C	23.9	C	34.7
3	NW 42 nd Ave and NW 135 th St	E	57.5	D	39.5
4	NW 42 nd Ave and Curtiss St	C	21.4	C	21.4
5	Douglas/Le Jeune Connector and E 65 th St	E	65.6	E	75.7
6	Douglas/Le Jeune Connector and WB Gratigny Pkwy	D	54	E	55.2
7	Douglas/Le Jeune Connector and NW 135 th St	E	55.4	E	75.4
8	Douglas/Le Jeune Connector and Ali Baba Ave	A	9.9	A	8
9	Douglas/Le Jeune Connector and Langley Rd	A	9.4	A	9.8
10	Douglas/Le Jeune Connector and NW 151 st St	B	19.3	C	32.8
11	NW 27 th Ave and EB NW 135 th St	C	33.7	E	62.7
12	NW 27 th Ave and WB Opa-locka Blvd	C	26.8	D	40.4
13	NW 27 th Ave and Burlington St	C	32.1	C	21.4
14	NW 27 th Ave and Ali Baba Ave	A	9.8	A	8.3
15	NW 27 th Ave and NW 151 st St	C	28.8	C	29
16	NW 22 nd Ave and EB NW 135 th St	D	44.9	D	35.8
17	NW 22 nd Ave and WB Opa-locka Blvd	C	32.3	D	35.1
18	NW 22 nd Ave and SR-9	F	165.4	F	123
19	NW 22 nd Ave and Ali Baba Ave	B	11.7	B	11.4
20	NW 22 nd Ave and NW 151 st St	D	43.7	C	30.1

Source: Cambridge Systematics.

Figure 2.6 Segments and Intersections Analyzed



2.3 Technical Approach and Scenario Development

Given the largely built out environment in Opa-locka, future expansion and growth of the logistics infrastructure will require maximizing current operations and redeveloping limited parcels within the established industrial areas. The key exception to this approach is the developable land at OPF, some of which currently is under development. As such, the development of scenarios was based on a bottom up approach that looked at opportunities for expansion and redevelopment under trend, medium, and high growth conditions. This is similar to an areawide project development transportation impact analysis. Trend, medium, and high growth scenarios were developed and associated development needs determined for each. A determination of a most likely alternative, based on a hybrid of conditions, was defined based on stakeholder input, current events, opportunities and obstacles, and an assumption of conservative private investment. The transportation impact analyses provided segment level evaluations of all of the scenarios, providing a robust view of the projected future impacts for each. An intersection, operational analysis was provided only for the most likely alternative providing a more detailed view of intersection conditions and needs.

The technical approach focused on evaluating two factors: 1) the types and locations of existing and future freight movements with respect to Opa-locka, and 2) types and locations of industrial and freight supporting

districts in the City. Technical analyses included evaluation of transportation infrastructure conditions and existing and future capacity, including safety information.

To determine future freight mobility needs, scenarios were developed based on the potential location of new warehousing or logistics space, and redevelopment opportunities. As the City of Opa-locka is nearly completely developed, new growth from increased freight and cargo from PortMiami, Miami International Airport, or other sources, were assumed to first locate in areas with large tracts of undeveloped land. In addition, the types of uses in Opa-locka are less connected to cargoes being handled at the port and airport.

Five key industrial subareas were identified within Opa-locka. These areas drive the scenario analysis and most likely alternative. Fluctuations of development within these areas drive freight activity through the generation of trips (trucks as well as autos). The five subareas represent approximately 1,060 acres of land of which just over 420 acres are currently vacant, with 400 of the 420 located on or in close proximity to OPF. The scenarios development assumed different development/ redevelopment patterns for each of these areas. These conditions impact the operational efficiencies of and demand for the transportation system. These development assumptions and resulting trips were used to identify improvement needs. Trend, Moderate, and High scenarios were defined. A “Most Likely” alternative also was developed based on the analysis of existing and future conditions (infrastructure and political) as well as stakeholder input.

Brief descriptions of key assumptions are provided below for each scenario.

Trend: Conditions continue as is, with new businesses building on the little remaining vacant land (excluding the airport). At OPF, the existing lease holders will continue to expand land side uses. Thus, this alternative assumes changes that are likely to occur in the next five years.

The acreage identified for development is based on approximate block or parcel sizes and reflects existing vacant parcels (approximately 22 acres). However, there is little significant change in the types of uses that occur with Trend. For example, the light industrial areas remain light industrial.

Moderate Growth: Additional freight traffic occurs beyond historic trends. One or more reasons might drive the growth, including Amazon development at OPF, reduced development opportunities in other cities, and increased freight demand from PortMiami and MIA.

This scenario assumes most development will occur on larger, vacant parcels around the airport (approximately 71 acres of freight/industrial development and 170 acres airside). The Trend level of redevelopment will continue in the remaining areas, with some additional redevelopment. For Subarea #5, trucking related uses along Ali Baba would expand (e.g., truck parking).

High Growth: Significant growth occurs in Opa-locka, particularly around the airport. Redevelopment occurs in the industrial subareas #1, #2, and #4 as developers start acquiring/assembling adjacent parcels and combining them for larger, new warehousing projects. These projects will have public investment (stable institutional backing, both politically and fiscally) and likely be private sector driven.

This scenario builds on the Trend and Moderate assumptions, with significant development and redevelopment of over 240 acres, with 80 acres of airside development and 160 freight/industrial development. This includes development in all identified industrial areas except Subarea #3 (Cairo Lane). This area is assumed to continue with its current uses for a considerable amount of time. In addition to heavy industrial uses being permitted here, redevelopment will be hampered by the lack of public utility and road infrastructure and potential environmental issues.

Most Likely: In this alternative, the Amazon development at OPF comes on line. This development spurs investment in other areas of the airport and the remainder of the landside parcels are developed with warehousing, truck parking, and small amounts of supporting commercial uses; dependent on the location.

The current trend of industrial/freight uses will continue throughout most of the City. For industrial subareas #1, #2, and #4, only the small handful of currently vacant parcels will develop and will likely have uses similar to the surrounding area. The same is true for industrial Subarea #3, which will continue to see heavy industrial uses (recycling and salvage) for the foreseeable future.

From a transportation perspective, this alternative primarily impacts access to/from and within the area around the airport. SR-924/Gratigny Parkway, NW 135th Street, Douglas/ Le Jeune Connector, Douglas Road, NW 42nd Avenue, Red Road/NW 57th Avenue, and Curtiss Street/Aladdin Street are affected. SR-9 and access to I-95 is another transportation connector, as is employee access from the Opa-locka Tri-Rail station. There are limited new transportation impacts or needs associated with redevelopment of industrial subareas #1 and #2, with the exception of access to/from SR-9 and I-95 because they retain their current character.

For each of the identified scenarios, traffic analyses were prepared to determine the amount of new trips that would be produced, followed by trip distribution and assignment. Corridors projected to experience increasing levels of congestion were identified for all of the scenarios. For the resulting “most likely” alternative, an intersection analysis was also performed.

2.4 Stakeholder Engagement

Throughout the project, key stakeholders were contacted to better understand opportunities and constraints in the City of Opa-locka. These included meetings with:

- Miami-Opa Locka Executive Airport Administrator,
- City of Opa-locka Planning Director, Public Works Director, and CRA Director,
- Industrial real estate brokers familiar with Opa-locka and Miami-Dade County development, and
- Businesses in Subareas #1, #2, #3 and #5. (Multiple requests of businesses in Subarea #4 were denied.)

The airport administrator explained existing and proposed plans for airport development, and clarified some of the service constraints the airport faces. The City officials confirmed the sub areas identified and presented development goals for each of them. They also talked about protecting residential areas from truck movements, increasing requests for truck parking areas, and capital improvement plans for needed infrastructure including roads and drainage. The real estate brokers noted the geographic advantage of Opa-locka and described new warehousing projects with state of the practice facilities. Opa-locka’s warehouses are outdated and there can be security concerns. The businesses each explained their goods movement operations and clarified travel routes for shipments (in and out). These businesses identified security as an issue; they also discussed the need to effectively use the “best” routes to avoid congestion and maneuver flooded roadways after rain events.

After preliminary projects were developed, the project team met with the City Planning Director and Public Works Director. They noted a desire to reduce truck travel throughout the City, and strategies such as a truck routing plan were well received. These officials recommended a truck operations improvement at the

intersection of NW 135th Street and NW 27th Avenue. City officials also noted that some of the corridors where capacity improvements are suggested are slated for complete street treatments. These projects would also be complicated due to right-of-way needs.

This Plan also was presented to the Miami-Dade TPO Freight Technical advisory committee (FTAC) three times. The first time, the committee confirmed the community characteristics identified by the project team and emphasized a need for better security solutions in the City, which sees high insurance rates. FTAC was in agreement with the scenarios approach for allocating future growth and travel demand to greenfield areas in Doral and Medley first, with existing communities filling demand later. Lastly, FTAC was presented the key findings and recommendations. Members agreed with a focused effort of short term projects adjacent to OPF to address the Amazon facility. Members also supported the need for coordination with the SMART corridor (NW 27th Avenue) to ensure freight considerations. The list of other programmatic recommendations were also well received, particularly the need to deal with truck routing.

3.0 Project Development

After completion of an existing conditions analysis (based on 2015 data), trip generation and assignment were developed to evaluate future (2040) traffic operational conditions. Link level analyses were prepared for all three scenarios and the most likely alternative, and an intersection-level operational analysis was performed for the Most Likely alternative. Projects proposed by other studies, including the Miami-Dade TPO's 2040 Long Range Transportation Plan and 5-year Transportation Improvement Plan, were considered prior to developing potential projects for the freight implementation plan. Projects were developed to address projected areas of congestion for the Most Likely alternative. Another future year analysis was performed assuming the projects would be built to evaluate their impact on roadway operations.

This section describes the trip generation, assignment, and distribution. It also lists proposed corridor and intersection projects to address future congestion. A list of the projects, with planning level cost estimates, and graphical depictions are provided. The results section describes the benefits of implementing the projects on roadway level of service. Appendix B contains the *Alternatives Analysis Report* that provides much more detail on these topics.

3.1 Trip Generation

Trip generation and assignment were developed to evaluate future traffic operational conditions. Link level analyses were prepared for all three scenarios and most likely alternative, and an intersection-level operational analysis was performed for the Most Likely alternative. There are three main components of traffic projection:

- Background traffic growth,
- New traffic generated from new land use updates (i.e., the scenarios/alternative), and
- Traffic distribution and assignment.

Background traffic growth was estimated by looking at historical growth trends together with model population and employment growth in the adjacent areas. A linear growth rate was identified for each roadway segment. The future background AADT was calculated by applying the growth rates to existing traffic volumes. The minimum traffic growth rates were kept at 0.5 percent annually.

Traffic generation from the growth scenarios/alternative as identified by land use at the five sub-areas was estimated by applying the ITE trip generation rates and other recognized sources to existing conditions and future scenarios. Auto and truck traffic were estimated separately. The "Net Changes" were then calculated and regarded as "New Traffic."

These "new traffic" volumes from each sub-area were then distributed and assigned to major roadways within the study area consistent with potential destinations, available roadway capacity, road restrictions, and access to major freeways and highways. New traffic, together with background growth, provided the future traffic volume loaded on the network. Table 3.1 shows the daily and peak hour trip generation for automobiles and trucks.

Table 3.1 Trip Generation for Each Industrial Subarea

	Subarea	Daily Trips			
		Trend	Moderate	High	Most Likely
Total Trips	1	109	311	420	311
	2	196	226	394	196
	3	288	288	288	288
	4	66	633	2,556	66
	5	58	15,072	21,261	15,766
Auto Trips	1	89	253	312	253
	2	159	176	267	159
	3	86	86	86	86
	4	63	519	2,184	63
	5	56	13,398	18,695	13,869
Truck Trips	1	20	58	108	58
	2	37	50	127	37
	3	202	202	202	202
	4	3	114	372	3
	5	2	1,674	2,566	1,897

	Subarea	AM Trips				AM In				AM Out			
		Trend	Moderate	High	Most Likely	Trend	Moderate	High	Most Likely	Trend	Moderate	High	Most Likely
Total Trips	1	18	50	100	50	13	38	58	38	4	12	42	12
	2	32	45	124	32	24	30	60	24	7	16	63	7
	3	52	52	52	52	25	25	25	25	27	27	27	27
	4	13	98	279	13	12	76	226	12	1	22	52	1
	5	11	1,928	2,886	1,973	10	1,603	2,428	1,634	1	325	458	339
Auto Trips	1	16	45	89	45	12	35	51	35	4	11	38	11
	2	29	41	108	29	22	26	51	22	7	14	56	7
	3	34	34	34	34	16	16	16	16	18	18	18	18
	4	12	89	255	12	12	69	210	12	1	20	46	1
	5	11	1,822	2,715	1,854	10	1,536	2,311	1,557	1	287	404	297
Truck Trips	1	2	5	12	5	1	4	7	4	0	1	5	1
	2	3	5	16	3	2	3	9	2	1	2	7	1
	3	18	18	18	18	9	9	9	9	9	9	9	9
	4	0	9	23	0	0	7	17	0	0	2	7	0
	5	0	105	171	119	0	67	118	77	0	38	53	42

	Subarea	PM Trips				PM In				PM Out			
		Trend	Moderate	High	Most Likely	Trend	Moderate	High	Most Likely	Trend	Moderate	High	Most Likely
Total Trips	1	16	45	74	45	5	13	42	13	11	32	32	32
	2	29	37	81	29	8	16	61	8	20	20	20	20
	3	52	52	52	52	27	27	27	27	25	25	25	25
	4	14	85	261	14	8	27	59	8	7	58	201	7
	5	13	2,128	3,144	2,178	7	1,008	1,466	1,024	6	1,120	1,678	1,154
Auto Trips	1	14	41	65	41	4	12	38	12	10	29	27	29
	2	26	33	69	26	8	15	54	8	18	18	15	18
	3	34	34	34	34	18	18	18	18	16	16	16	16
	4	14	78	243	14	7	25	54	7	7	53	189	7
	5	12	2,026	2,983	2,065	6	958	1,395	970	6	1,068	1,588	1,095
Truck Trips	1	1	4	9	4	0	1	5	1	1	3	4	3
	2	3	4	11	3	1	2	7	1	2	2	5	2
	3	18	18	18	18	9	9	9	9	9	9	9	9
	4	0	7	18	0	0	2	5	0	0	5	13	0
	5	0	102	161	113	0	50	71	53	0	52	90	60

Source: Cambridge Systematics.

3.2 Trip Assignment and Distribution

The analysis year for future conditions was 2040. To identify needs from an operational perspective, future conditions, with background traffic and new traffic from the scenarios/alternative, were analyzed first without any mitigation projects and regarded as the future baseline conditions. LRTP cost feasible projects and all other committed projects were incorporated in the future baseline conditions. Deficiencies and needs were identified from the operations analyses. Performance measures selected were:

- Arterial daily link LOS;
- Arterial peak hour peak direction LOS; and
- AM and PM peak hour intersection LOS and Delay.

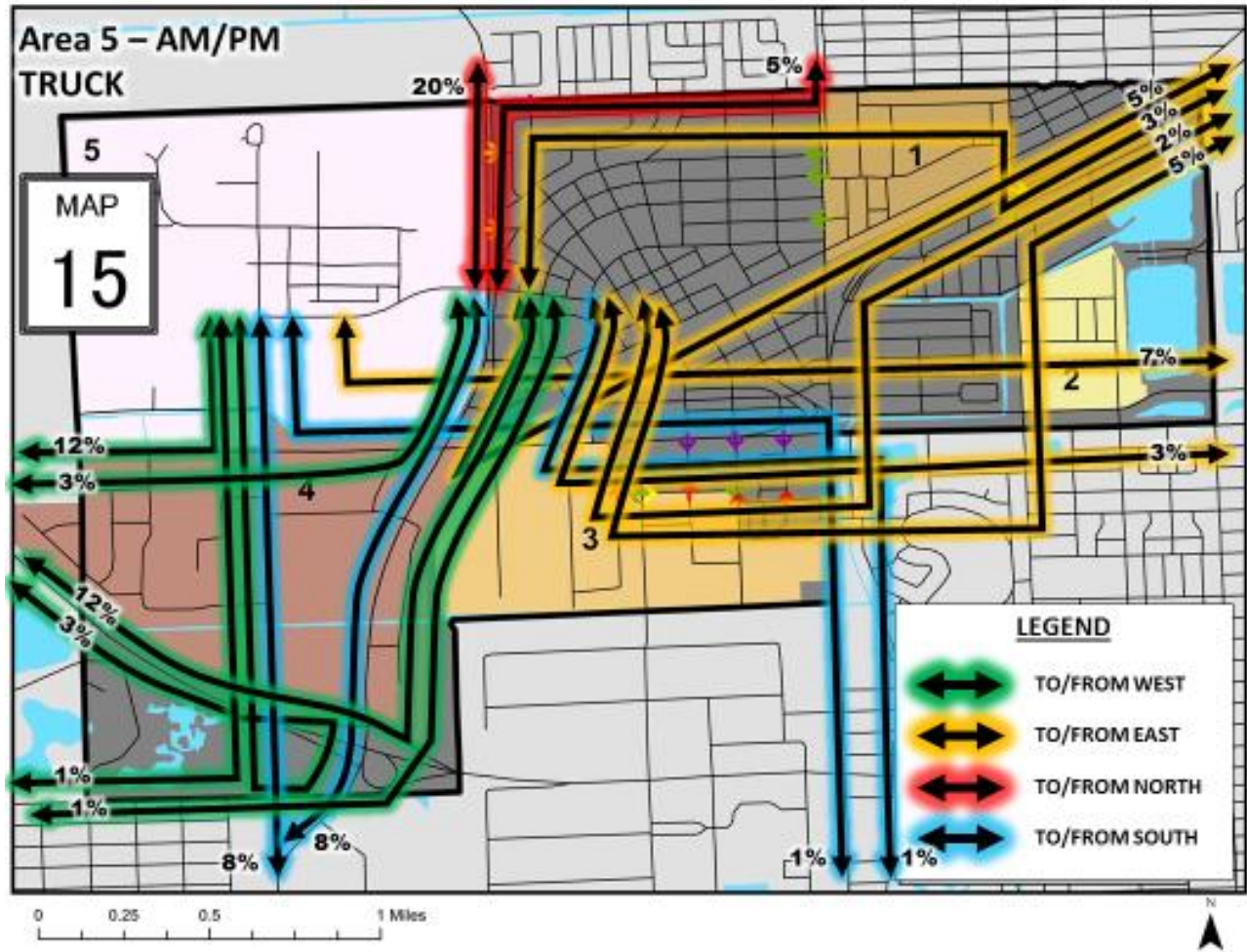
Similar to the existing conditions analysis, Daily and Peak Hour LOS were decided by comparing traffic volume with LOS volume thresholds defined in the 2012 Q/LOS Service Volume Tables. Intersection LOS and Delays were evaluated using Synchro 10.

The new traffic projected for each alternative was distributed to different destination areas and assigned to roadways based on distance, capacity, current volume to capacity (v/c) ratio, and ease of travel. The following assumptions were made during this process:

- For Subarea #1, truck and auto trips correspond to population and employment density as identified by SERPM 7.071 travel demand model.
- For Subarea #2, truck and auto trips correspond to population and employment density as identified by SERPM 7.071 travel demand model.
- For Subarea #3, auto trip distribution corresponds to the existing traffic pattern (link volume, turning movement count). Truck trips are distributed equally to the major roadways.
- For Subarea #4, auto trip distribution corresponds to the existing traffic pattern (link volume, turning movement count). Truck trips are distributed equally to the major roadways.
- For Subarea #5, auto trip distribution corresponds to the existing traffic pattern (link volume, turning movement count). Truck trips are distributed 25 percent to the northwest (I-75), 25 percent to the southwest (FEC railyard), 15 percent to southeast (PortMiami), and 35 percent to the northeast (I-95).

Detailed trip assignment diagrams were prepared for each industrial subarea for autos, trucks, and for AM/PM peak and non-peak periods. An example of the AM/PM peak for Subarea #5 by OPF is shown in Figure 3.1.

Figure 3.1 Subarea #5 Truck Assignment AM/PM Peak



2040 link volumes were developed by adding trips generated from each growth scenario/alternative to 2040 background traffic. Table 3.2 summarizes future link volumes under each growth scenario/alternative with daily and peak hour directional volumes (DDHV).

A 2040 intersection operational analysis was performed for the Most Likely alternative only. Table 3.3 and Table 3.4 present 2040 AM and PM peak hour intersection turning movement volumes under the Most Likely alternative, respectively.

Table 3.2 2040 AADT and DDHV

#	Roadway	From	To	2014		2040 Trend		2040 Moderate		2040 High		2040 Most Likely	
				AADT	DDHV	AADT	DDHV	AADT	DDHV	AADT	DDHV	AADT	DDHV
1	NW 42 nd Ave/Le Jeune Rd	E 56 th St	E 65 th St	16,700	820	21,100	1,040	23,000	1,250	24,100	1,380	23,000	1,250
2	NW 42 nd Ave/Le Jeune Rd	E 65 th St	SR-916 (NW 135 th St)	20,500	1,010	25,900	1,280	28,500	1,600	30,300	1,810	28,400	1,580
3	NW 42 nd Ave/Le Jeune Rd	SR-916 (NW 135 th St)	Curtiss St	6,300	330	8,000	410	13,200	930	15,400	1,200	13,500	940
4	Douglas/Le Jeune Connector	Le Jeune Rd	SR-916 (NW 135 th St)	31,000	1,530	39,200	1,940	42,100	2,220	44,200	2,430	42,000	2,200
5	Douglas/Le Jeune Connector	NW 135 th St	Ali Baba Ave	33,000	1,280	41,700	1,620	46,300	2,140	48,400	2,430	46,400	2,140
6	Douglas/Le Jeune Connector	Ali Baba Ave	Curtiss St	33,000	1,510	41,600	1,920	46,200	2,420	48,200	2,700	46,300	2,420
7	Douglas/Le Jeune Connector	Curtiss St	NW 151 st St	33,000	1,510	41,600	1,920	49,500	3,020	53,000	3,600	49,800	3,030
8	NW 32 nd Ave	NW 119 th St	SR-916 (NW 135 th St)	13,400	690	24,000	1,240	24,200	1,270	24,300	1,290	24,200	1,270
9	NW 27 th Ave/SR-9/SR-820	NW 119 th St	SR-916 (Opa-Locka Blvd)	43,000	2,120	48,700	2,400	49,200	2,450	49,400	2,480	49,200	2,460
10	NW 27 th Ave/SR-9/SR-820	SR-916 (Opa-Locka Blvd)	SR-9 Ramp	58,500	2,880	66,200	3,270	66,700	3,320	67,100	3,370	66,600	3,310
11	NW 27 th Ave/SR-9/SR-820	SR-9 Ramp	Ali Baba Ave	39,000	1,920	44,100	2,180	44,500	2,220	44,700	2,240	44,500	2,220
12	NW 27 th Ave/SR-9/SR-820	Ali Baba Ave	NW 151 st St	34,500	1,700	39,100	1,930	39,500	1,980	39,700	2,010	39,500	1,980
13	SR-9	NW 27 th Ave	NW 22 nd Ave	8,300	390	9,400	450	9,500	460	9,800	490	9,400	450
14	SR-9	NW 22 nd Ave	NW 159 th St	25,924	1,230	29,400	1,400	30,700	1,540	31,600	1,640	30,700	1,530
15	SR-9	NW 159 th St	Golden Glades Interchange	31,000	1,530	35,100	1,740	36,500	1,870	37,300	1,980	36,400	1,870
16	NW 22 nd Ave	NW 119 th St	NW 135 th St (Opa-Locka Blvd)	17,900	920	31,900	1,650	32,000	1,670	32,100	1,680	32,000	1,670
17	NW 22 nd Ave	NW 135 th St (Opa-Locka Blvd)	SR-9	30,000	1,260	53,500	2,270	53,900	2,310	54,200	2,350	53,900	2,300
18	NW 22 nd Ave	SR-9	NW 151 st St	33,900	1,590	60,400	2,830	61,400	2,940	61,900	2,990	61,500	2,940
19	NW 151 st St	Douglas/Le Jeune Connector	NW 27 th Ave	9,000	460	11,400	590	15,000	970	16,400	1,160	15,100	970
20	NW 151 st St	NW 27 th Ave	NW 22 nd Ave	11,000	470	13,900	590	14,300	640	14,500	660	14,300	640
21	Curtiss St	NW 42 nd Ave	Douglas/Le Jeune Connector	6,600	340	8,400	440	17,600	1,410	21,500	1,920	18,100	1,430
22	Ali Baba Ave	Douglas/Le Jeune Connector	NW 27 th Ave	3,600	190	5,000	260	5,800	350	6,200	390	5,900	350
23	Ali Baba Ave	NW 27 th Ave	NW 22 nd Ave	2,300	120	3,200	170	4,000	250	4,300	290	4,000	250
24	SR-916 (NW 135 th St)	NW 57 th Ave/Red Road	Le Jeune Rd	29,500	1,450	33,500	1,660	36,200	1,930	37,700	2,110	36,100	1,920
25	SR-916 (NW 135 th St)	Le Jeune Rd	Douglas/Le Jeune Connector	21,500	1,060	24,400	1,210	26,500	1,410	27,800	1,540	26,400	1,400
26	SR-916 (NW 135 th St)	Douglas/Le Jeune Connector	NW 27 th Ave	21,600	1,060	24,700	1,240	28,100	1,610	30,000	1,840	28,100	1,590
27	SR-916 (NW 135 th St)	NW 27 th Ave	NW 22 nd Ave	21,100	1,040	24,100	1,200	26,100	1,410	27,100	1,540	26,100	1,400
28	SR-924 (Gratigny Parkway)	NW 57 th Ave/Red Road	Douglas/Le Jeune Connector	47,500	2,210	53,800	2,510	56,000	2,710	57,100	2,810	56,000	2,710
29	NW 119 th St/E 65 th St	Douglas/Le Jeune Connector	NW 27 th Ave	11,500	590	13,000	670	13,100	680	13,200	690	13,000	670
30	E 65 th St	Le Jeune Rd	Douglas/Le Jeune Connector	11,700	600	13,200	680	13,400	710	13,500	730	13,400	710

Source: Cambridge Systematics.

Table 3.3 2040 AM Peak Hour Intersection Turning Movement Volumes (Most Likely Alternative)

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	NW 42 nd Ave and E 65 th St	82	857	26	146	866	737	468	863	146	5	512	170
2	NW 42 nd Ave and NW 135 th St	348	593	184	332	1,159	602	413	747	376	234	755	317
3	NW 42 nd Ave and Douglas/Le Jeune Connector		978	1,052		1,090					1,458		
4	Douglas/Le Jeune Connector and NW 135 th St	151	1,236	410	327	1,638	277	246	607	27	299	701	295
6	Douglas/Le Jeune Connector and NW 151 st St		1,381	618	271	2,482					916		197
7	NW 27 th Ave and NW 135 th St		1,259	208	368	2,353		463	1,015	200			
8	NW 27 th Ave and Opa-locka Blvd	141	1,625			2,583	495				272	884	145
9	NW 22 nd Ave and NW 135 th St		1,184	173	644	2,020		226	1,366	145			
10	NW 22 nd Ave and Opa-locka Blvd	251	1,207			2,389	222				114	993	307
11	NW 22 nd Ave and SR-9	11	182	454	501	2,022	57	88	753	5	636	1,179	126
12	NW 22 nd Ave and NW 151 st St	445	1,839	208	132	1,880	309	230	86	325	147	84	91
15	NW 27 th Ave and Ali Baba Ave	29	1,027	41		2,304	63	94	221	83	28	157	33
16	NW 27 th Ave and NW 151 st St	137	861	36	233	2,193	400	392	475	277	108	326	82
17	NW 27 th Ave and Burlington St	32	1,020			2,344	58			20	788	76	35
18	Douglas/Le Jeune Connector and WB Gratigny	384	1,270			1,902	443				473	7	332
19	Douglas/Le Jeune Connector and E 65 th St		902	66	291	1,649	785	681	480	20			
46	NW 42 nd Ave and Curtiss St	28	55	1,160	60	44	1	1	33	19	1,184	24	48
47	Douglas/Le Jeune Connector and Langley Rd	796	1,555			1,634	874	872		794			
49	Douglas/Le Jeune Connector and Ali Baba Ave		2,186	91	162	2,186					103		174
60	NW 22 nd Ave and Ali Baba Ave	82	2,361	82	82	2,361	103	84	57	63	63	57	63

Source: Cambridge Systematics.

Table 3.4 2040 PM Peak Hour Intersection Turning Movement Volumes (Most Likely Alternative)

#	Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	NW 42 nd Ave and E 65 th St	294	1,027	49	254	979	720	385	647	125	10	661	147
2	NW 42 nd Ave and NW 135 th St	561	886	315	376	684	479	517	665	315	250	773	342
3	NW 42 nd Ave and Douglas/Le Jeune Connector		1,754	1,577		1,131					1,268		
4	Douglas/Le Jeune Connector and NW 135 th St	93	1,533	226	361	1,795	251	360	941	73	279	781	473
6	Douglas/Le Jeune Connector and NW 151 st St		2,551	583	267	1,901					631		275
7	NW 27 th Ave and NW 135 th St		1,361	87	241	1,878		695	978	207			
8	NW 27 th Ave and Opa-locka Blvd	153	2,185			1,709	429				280	994	396
9	NW 22 nd Ave and NW 135 th St		2,013	173	374	1,574		224	983	123			
10	NW 22 nd Ave and Opa-locka Blvd	500	1,848			1,623	290				166	1,314	428
11	NW 22 nd Ave and SR-9	20	1,698	653	472	2,063	48	184	883	6	517	975	168
12	NW 22 nd Ave and NW 151 st St	447	1,841	208	132	1,882	313	234	86	327	147	84	91
15	NW 27 th Ave and Ali Baba Ave	33	1,999	27		1,527	88	130	221	103	38	170	51
16	NW 27 th Ave and NW 151 st St	284	1,792	45	130	1,341	394	471	378	136	86	397	106
17	NW 27 th Ave and Burlington St	25	1,868			1,660	26			14	728	63	60
18	Douglas/Le Jeune Connector and WB Gratigny	483	1,389			1,780	735				487	1	323
19	Douglas/Le Jeune Connector and E 65 th St		1,262	166	386	1,259	877	595	485	1			
46	NW 42 nd Ave and Curtiss St	28	55	1,241	60	44	1	1	33	19	1,265	24	48
47	Douglas/Le Jeune Connector and Langley Rd	847	1,555			1,634	935	933		845			
49	Douglas/Le Jeune Connector and Ali Baba Ave		2,231	91	167	2,231					103		179
60	NW 22 nd Ave and Ali Baba Ave	82	2,363	82	82	2,363	105	86	60	63	63	60	63

Source: Cambridge Systematics.

3.3 Future Points of Failure

Results from the baseline (No-Build) analysis describe the conditions projected to exist in 2040 if no improvements are considered. It serves as the baseline to compare with build alternatives and qualify the benefits and impacts. Roadway levels of service for 2040 No-Build conditions were determined using Synchro 10 for peak hour signal intersection operations and FDOT 2012 Q/LOS service volume tables for daily roadway segment conditions. A summary of intersection LOS and Delay for the 2040 No-Build operations is provided in Table 3.5. The majority of signal intersections for baseline 2040 conditions are expected to operate at LOS E or F.

Table 3.5 2040 Baseline Conditions Intersection LOS and Delay

Intersection	2040 Future Unmitigated LOS and Delay			
	AM		PM	
	LOS	Delay (sec)	LOS	Delay (sec)
NW 42 nd Ave and Douglas/Le Jeune Connector	C	20.8	D	47
NW 42 nd Ave and E 65 th St	D	41.8	E	71.4
NW 42 nd Ave and NW 135 th St	F	188.7	F	170.7
NW 42 nd Ave and Curtiss St	C	32.1	D	37.2
Douglas/Le Jeune Connector and E 65 th St	F	144.4	F	113.5
Douglas/Le Jeune Connector and WB Gratigny Pkwy	F	99.9	F	91.3
Douglas/Le Jeune Connector and NW 135 th St	F	172.4	F	238
Douglas/Le Jeune Connector and Ali Baba Ave	F	139.6	E	58
Douglas/Le Jeune Connector and Langley Rd	F	270.3	F	287.1
Douglas/Le Jeune Connector and NW 151 st St	F	102.9	F	165.9
NW 27 th Ave and EB NW 135 th St	D	38.7	D	38.8
NW 27 th Ave and WB Opa-locka Blvd	E	62.9	E	56.9
NW 27 th Ave and Burlington St	F	170.2	C	26.2
NW 27 th Ave and Ali Baba Ave	E	63	B	14.5
NW 27 th Ave and NW 151 st St	F	172.7	E	66.4
NW 22 nd Ave and EB NW 135 th St	F	131.2	F	140.4
NW 22 nd Ave and WB Opa-locka Blvd	F	140.9	F	145.8
NW 22 nd Ave and SR-9	F	195.3	F	229.6
NW 22 nd Ave and Ali Baba Ave	F	87.3	E	61.2
NW 22 nd Ave and NW 151 st St	F	179.3	F	132.7

Source: Cambridge Systematics.

Table 3.6 summarizes 2040 No-Build conditions for Trend, Moderate, and High scenarios and the Most Likely alternative. Douglas/Le Jeune Connector will be over-capacity. Part of NW 27th Avenue and the majority of NW 22nd Avenue are projected to be over-capacity.

Table 3.6 2040 Baseline Conditions for Trend, Moderate, High Scenarios and Most Likely Alternative

#	Roadway	From	To	LOS Std*	Existing Traffic Volume and LOS				2040 Trend Traffic Volume and LOS				2040 Moderate Traffic Volume and LOS				2040 High Traffic Volume and LOS				2040 Most Likely Traffic Volume and LOS			
					FDOT AADT ¹	LOS Daily	DDHV-PeakDir	LOS (Est. Peak Hour)	Proj. AADT ²	LOS Daily ³	Peak Hr/ Peak Dir. Est ⁴	LOS Peak Hour ⁵	Proj. AADT ²	LOS Daily ³	Peak Hr/ Peak Dir. Est ⁴	LOS Peak Hour ⁵	Proj. AADT ²	LOS Daily ³	Peak Hr/ Peak Dir. Est ⁴	LOS Peak Hour ⁵	Proj. AADT ²	LOS Daily ³	Peak Hr/ Peak Dir. Est ⁴	LOS Peak Hour ⁵
1	NW 42 nd Ave/Le Jeune Rd	E 56 th St	E 65 th St	D	16,700	C	820	C	21,060	C	1,040	C	23,010	C	1,250	C	24,110	C	1,380	C	23,000	C	1,250	C
2	NW 42 nd Ave/Le Jeune Rd	E 65 th St	SR-916 (NW 135 th St)	D	20,500	C	1,010	C	25,870	C	1,280	C	28,500	C	1,600	C	30,280	C	1,810	C	28,370	C	1,580	C
3	NW 42 nd Ave/Le Jeune Rd	SR-916 (NW 135 th St)	Curtiss St	E	6,300	C	330	C	7,960	C	410	C	13,230	D	930	D	15,400	D	1,200	D	13,470	D	940	D
4	Douglas/Le Jeune Connector	Le Jeune Rd	SR-916 (NW 135 th St)	E	31,000	C	1,530	C	39,210	F	1,940	F	42,130	F	2,220	F	44,170	F	2,430	F	41,990	F	2,200	F
5	Douglas/Le Jeune Connector	NW 135 th St	Ali Baba Ave	E	33,000	C	1,280	C	41,650	F	1,620	F	46,280	F	2,140	F	48,410	F	2,430	F	46,430	F	2,140	F
6	Douglas/Le Jeune Connector	Ali Baba Ave	Curtiss St	E	33,000	C	1,510	C	41,630	F	1,920	F	46,170	F	2,420	F	48,250	F	2,700	F	46,300	F	2,420	F
7	Douglas/Le Jeune Connector	Curtiss St	NW 151 st St	E	33,000	C	1,510	C	41,640	F	1,920	F	49,500	F	3,020	F	52,970	F	3,600	F	49,810	F	3,030	F
8	NW 32 nd Ave	NW 119 th St	SR-916 (NW 135 th St)	E	13,400	C	690	C	23,950	C	1,240	C	24,220	C	1,270	C	24,320	C	1,290	C	24,230	C	1,270	C
9	NW 27 th Ave/SR-9/SR-820	NW 119 th St	SR-916 (Opa-Locka Blvd)	D	43,000	C	2,120	C	48,680	C	2,400	C	49,190	C	2,450	C	49,400	C	2,480	C	49,210	C	2,460	C
10	NW 27 th Ave/SR-9/SR-820	SR-916 (Opa-Locka Blvd)	SR-9 Ramp	D	58,500	D	2,880	C	66,210	F	3,270	F	66,670	F	3,320	F	67,090	F	3,370	F	66,600	F	3,310	F
11	NW 27 th Ave/SR-9/SR-820	SR-9 Ramp	Ali Baba Ave	D	39,000	D	1,920	D	44,140	D	2,180	D	44,520	D	2,220	D	44,690	D	2,240	D	44,530	D	2,220	D
12	NW 27 th Ave/SR-9/SR-820	Ali Baba Ave	NW 151 st St	D	34,500	D	1,700	D	39,090	D	1,930	D	39,500	D	1,980	D	39,690	D	2,010	D	39,510	D	1,980	D
13	SR-9	NW 27 th Ave	NW 22 nd Ave	D	8,300	C	390	C	9,410	C	450	C	9,490	C	460	C	9,750	C	490	C	9,410	C	450	C
14	SR-9	NW 22 nd Ave	NW 159 th St	D	25,924	C	1,230	C	29,410	C	1,400	C	30,720	C	1,540	C	31,550	C	1,640	C	30,710	C	1,530	C
15	SR-9	NW 159 th St	Golden Glades Interchange	D	31,000	C	1,530	C	35,140	C	1,740	C	36,460	C	1,870	C	37,290	C	1,980	C	36,440	C	1,870	C
16	NW 22 nd Ave	NW 119 th St	NW 135 th St (Opa-Locka Blvd)	E	17,900	C	920	C	31,870	C	1,650	C	32,040	C	1,670	C	32,110	C	1,680	C	32,040	C	1,670	C
17	NW 22 nd Ave	NW 135 th St (Opa-Locka Blvd)	SR-9	E	30,000	C	1,260	C	53,550	F	2,270	F	53,920	F	2,310	F	54,200	F	2,350	F	53,920	F	2,300	F
18	NW 22 nd Ave	SR-9	NW 151 st St	E	33,900	F	1,590	F	60,390	F	2,830	F	61,410	F	2,940	F	61,860	F	2,990	F	61,460	F	2,940	F
19	NW 151 st St	Douglas/Le Jeune Connector	NW 27 th Ave	E	9,000	C	460	C	11,350	C	590	C	14,960	D	970	D	16,420	D	1,160	D	15,110	D	970	D
20	NW 151 st St	NW 27 th Ave	NW 22 nd Ave	E	11,000	C	470	C	13,860	D	590	C	14,310	D	640	C	14,500	D	660	D	14,330	D	640	C
21	Curtiss St	NW 42 nd Ave	Douglas/Le Jeune Connector	E	6,600	C	340	C	8,350	C	440	C	17,630	D	1,410	D	21,460	D	1,920	F	18,070	D	1,430	D
22	Ali Baba Ave	Douglas/Le Jeune Connector	NW 27 th Ave	E	3,600	C	190	C	5,030	C	260	C	5,820	C	350	C	6,150	C	390	C	5,850	C	350	C
23	Ali Baba Ave	NW 27 th Ave	NW 22 nd Ave	E	2,300	C	120	C	3,200	C	170	C	3,980	C	250	C	4,310	C	290	C	4,020	C	250	C
24	SR-916 (NW 135 th St)	NW 57 th Ave/Red Road	Le Jeune Rd	D	29,500	C	1,450	C	33,450	C	1,660	C	36,150	C	1,930	D	37,690	C	2,110	F	36,130	C	1,920	D
25	SR-916 (NW 135 th St)	Le Jeune Rd	Douglas/Le Jeune Connector	D	21,500	C	1,060	C	24,410	C	1,210	C	26,470	C	1,410	C	27,820	C	1,540	C	26,390	C	1,400	C
26	SR-916 (NW 135 th St)	Douglas/Le Jeune Connector	NW 27 th Ave	D	21,600	C	1,060	C	24,730	C	1,240	C	28,120	C	1,610	C	29,990	C	1,840	C	28,130	C	1,590	C
27	SR-916 (NW 135 th St)	NW 27 th Ave	NW 22 nd Ave	D	21,100	C	1,040	C	24,050	C	1,200	C	26,070	C	1,410	C	27,140	C	1,540	C	26,090	C	1,400	C
28	SR-924 (Gratigny Parkway)	NW 57 th Ave/Red Road	Douglas/Le Jeune Connector	D	47,500	B	2,210	B	53,790	B	2,510	B	56,000	B	2,710	B	57,080	B	2,810	B	56,040	B	2,710	B
29	NW 119 th St/E 65 th St	Douglas/Le Jeune Connector	NW 27 th Ave	E	11,500	C	590	C	13,000	C	670	C	13,050	C	680	C	13,230	C	690	C	13,000	C	670	C
30	E 65 th St	Le Jeune Rd	Douglas/Le Jeune Connector	E	11,700	C	600	C	13,220	C	680	C	13,440	C	710	C	13,530	C	730	C	13,450	C	710	C

Notes

*LOS Std = Segment-level LOS standard based on facility type per 2012 FDOT Generalized Service Volume Tables

¹FDOT AADT - AADT taken from FDOT traffic counters

²Proj. AADT - AADT projected assuming given scenario assumptions

³LOS Daily - Segment-level LOS derived existing facility type and projected AADT

⁴Peak Hr/ Peak Dir. Est - PM peak hour, peak direction volume projected assuming given scenario assumptions

⁵LOS Peak Hour - Segment-level LOS derived existing facility type and projected PM peak hour, peak direction volume

PM Peak hour was selected after sensitivity analysis was conducted to determine which peak hour (AM or PM) added the highest volumes to the network.

3.4 Corridor Projects

Mitigation projects were developed based on considerations of stakeholder interview feedback, existing traffic conditions and operational analysis, field visit observations, and future traffic conditions and operational analysis. A review of programmed and planned projects was performed to identify any on-going or planned efforts related to this study before developing potential projects.

The Miami-Dade TPO's 2040 LRTP and TIP, the City of Opa-locka Comprehensive Plan (Comp Plan), and the Department's Work Program were reviewed to identify any planned improvement projects near the study area. Excerpts from the LRTP, TIP, Comp Plan, and Work Program are included in the *Alternatives Analysis Report* in Appendix B.

The Miami-Dade TPO has identified four projects near the study area in the 2040 LRTP:

- Priority I projects (2015 to 2020)
 - #18 – Enhanced bus service for North Corridor (NW 27th Avenue) from Miami Intermodal Center to NW 215th Street Terminal
 - #22 - Add two lanes along NW 57th Avenue (Red Road) from W 65th Street to W 84th Street
 - #23 - Add two lanes along NW 57th Avenue (Red Road) from W 53rd Street to W 65th Street
- Priority IV projects (2031 to 2040)
 - #6 – Bus Rapid Transit for North Corridor (NW 27th Ave) from Miami Intermodal Center to NW 215th Street Terminal

The current TIP (FY 2017 - 2020) includes the following four projects near the study area:

- #NM59 – Bicycle Pedestrian Improvements along NW 22nd Avenue from NW 111th Street to NW 183rd Street
- #NM106 – Bicycle Pedestrian Improvements at NW 27th Avenue to SR-9 Extension
- #NM224 – Bicycle Pedestrian Improvements at Nathan Young Elementary
- #MDT301 – Enhanced bus service for North Corridor (NW 27th Avenue) from Miami Intermodal Center to NW 215th Street Terminal

The City of Opa-locka currently has one project within the study area:

- NW 147th Street improvements, from NW 22nd Avenue to NW 27th Avenue

The FDOT 5-Year Work Program (FY 2017-2022) includes the following projects that are located close to the study area:

- FM #438076-1 – PD&E along SR-9/NW 27th Avenue from MIA Intermodal Center to NW 215th Street (a SMART corridor)
- FM #439522-1 – Pedestrian Safety Improvement along SR-916/NW 135th Street between Cairo Lane and Sesame Street
- FM #431200-1 – Preliminary Engineering along SR-924/Gratigny Parkway for MDX Corridors

The SMART corridor PD&E on NW 27th Avenue and the PD&E study for MDX Corridors are two projects that should consider freight/truck movement. Table 3.7 lists a total of 22 proposed projects as the result of this Plan's analysis and project development. Planning level costs for the proposed projects are also provided. More detail about how these costs were prepared is provided in Appendix C. Figures 3.2 through 3.11 show the location of projects in the City and reflect recommended improvements. The list consists of various project types including:

- Access Management,
- Transportation Systems Management and Operations (TSM&O)/Advanced Transportation Management System (ATMS),
- Intersection geometry improvements (e.g., turn lanes, turn bays, turning radii), and
- Capacity/widening.

Six projects were identified in the vicinity of the Miami-Opa Locka Executive Airport to support development of the available parcels for an Amazon Distribution Center and other future uses. Projects 1-OPA through 4-OPA improve internal circulation and access from the airport area to Douglas/Le Jeune Connector and NW 42nd Ave/Le Jeune Road. Projects 5-OPA and 6-OPA improve access to the airport area at 42nd Avenue and 135th Street. Projects 17-OPA through 21-OPA are operational in nature and seek to enhance signal coordination along the major roads in the City of Opa-locka. Project 22-OPA is designed to improve the operation of a tight intersection, particularly for northbound turning trucks. Projects 12-OPA through 16-OPA are designed to provide additional capacity on major north-south corridors. Projects 7-OPA through 9-OPA are access management projects, to reduce conflicts and congestion due to frequent access points. Project 10-OPA provides a new facility for Subarea #3 to improve truck movement in the area while addressing residential compatibility concerns. Project 11-OPA is targeted to improve truck access to the Gratigny Parkway, to reduce the left turns trucks must make to gain access. It should be noted that intersection and capacity improvement projects should include pedestrian crossing and safety features, and bicycle infrastructure, where feasible.

Table 3.7 Proposed Mitigation Projects

Name	Project ID	Project Type	Description	Location	Planning Costs*
Curtiss St/NW 42nd Ave	1-OPA	Arterial/Collector	Extend left turn storage lane to 1,000 feet on Curtiss St. at WB approach to NW 42 nd Ave; close median at Musick St	Curtiss St from NW 42 nd Ave east 1,000 feet	\$86,000
Curtiss St/Douglas Rd	2-OPA	Arterial/Collector	Add additional EB right turn lane at Curtiss St and Douglas Rd	Curtiss St at Douglas Rd	\$145,000
Douglas Rd Lanes	3-OPA	Arterial/Collector	Add two additional through lanes on Douglas Rd from 135 th St to 157 th St	Douglas Rd from 135 th St to 157 th St	\$2,866,000
Douglas Rd Turbo	4-OPA	Arterial/Collector	Convert one NB through lane to a turbo through lane for NB traffic along Douglas Rd at Curtiss St	Douglas Rd South of Curtiss to North of Curtiss	Combined with 3-OPA
NW 42nd Ave/135th St	5-OPA	Arterial/Collector	Add additional SB through lane and exclusive SB right turn lane at NW 42 nd Ave and 135 th St	NW 42 nd Ave at 135 th St	\$901,000
135th St/NW 42nd Ave	6-OPA	Arterial/Collector	Add additional receiving lane WB on 135 th St from NW 42 nd Ave SB right turn	135 th St West of NW 42 nd Ave	Combined with 5-OPA
NW 42nd Ave/NW 135th St Access	7-OPA	Arterial/Collector	Reduce access/close driveways along intersection legs of NW 42 nd Ave/NW 135 th St	NW 42 nd Ave and NW 135 th St within 1000 feet of intersection	\$375,000
NW 135th St	8-OPA	Arterial/Collector	Improve access management along NW 135 th St from NW 42 nd Ave and raise median along NW 135 th St east of Douglas Rd to east of railroad to restrict business access	NW 135 th St	\$21,000
Douglas Rd/NW 135th St Access	9-OPA	Arterial/Collector	Reduce access/close driveways along intersection legs of Douglas Rd/NW 135 th St	Douglas Rd and NW 135 th St within 1000 feet of intersection	\$125,000
Cairo Ln/NW 127th St	10-OPA	Arterial/Collector	Upgrade Cairo Lane; complete and upgrade NW 127 th St from Cairo Lane to NW 32 nd Ave	Extent of Cairo Ln and NW 127 th St	\$4,582,000
Douglas/Gratigny	11-OPA	Arterial/Collector	Improve Le Jeune Rd/Douglas Rd access to/from Gratigny interchange	Douglas Rd/Gratigny Access	\$31,250,000
NW 27th Ave Lanes	12-OPA	Arterial/Collector	Add two additional through lanes on NW 27 th Ave from Opa-locka Blvd to SR-9	NW 27 th Ave from Opa-locka Blvd to SR-9	\$1,543,000
SR-9/NW 27th Ave Interchange	13-OPA	Arterial/Collector	Reconstruct SR-9/NW 27 th Ave interchange (coordinate with SMART corridor project)	SR-9/NW 27 th Ave Interchange	\$31,250,000

Name	Project ID	Project Type	Description	Location	Planning Costs*
NW 27th Ave SMART Coordination	14-OPA	Arterial/Collector	Incorporate truck considerations input to SMART NW 27 th Ave project	NW 27 th Ave in Opa-locka	\$500,000**
NW 22nd Ave 2 Lanes	15-OPA	Arterial/Collector	Add two additional through lanes on NW 22 nd Ave from Opa-locka Blvd. to SR-9	NW 22 nd Ave from Opa-locka Blvd to SR-9	\$4,828,000
NW 22nd Ave 4 Lanes	16-OPA	Arterial/Collector	Add four additional through lanes on NW 22 nd Ave from SR-9 to NW 151 st St	NW 22 nd Ave from SR-9 to NW 151 st St	\$1,960,000
Douglas Rd Signals	17-OPA	Operations	Improve signal coordination along Douglas Rd	Douglas Rd In Opa-locka	\$56,000
NW 42nd Ave Signals	18-OPA	Operations	Improve signal coordination along NW 42 nd Ave/Le Jeune Rd	NW 42 nd Ave in Opa-locka	\$25,000
NW 135th St Signals	19-OPA	Operations	Improve signal coordination along NW 135 th St	NW 135 th St In Opa-locka	\$113,000
NW 27th Ave Signals	20-OPA	Operations	Improve signal coordination along NW 27 th Ave	NW 27 th Ave in Opa-locka	\$56,000
NW 22nd Ave Signals	21-OPA	Operations	Improve signal coordination along NW 22 nd Ave	NW 22 nd Ave in Opa-locka	\$56,000
NW 135 and NW 27th Ave	22-OPA	Operations	Change EB approach to 1 shared through right + 2 through + 2 left; sign to indicate EB trucks making LT to NB 27 th Ave use outer LT lane only; pull back SBLT stop line, add pavement marking to align new EB through and left turn traffic pattern	NW 135 th St and NW 27 th Ave	\$55,000

Source: Cambridge Systematics.

Notes:

* - Estimates are primarily derived from FDOT's Long Range Estimates (LRE) Cost Per Mile Models (available at <http://www.fdot.gov/programmanagement/Estimates/LRE/CostPerMileModels/CPMSummary.shtm>) and dated June 2016, therefore estimates are calculated in 2016 dollars. Appendix C provides details.

** - A SMART corridor project is a major coordination effort that should address freight travel. A place holder of \$500,000 has been included to represent coordination and initial design work related to truck considerations.

Figure 3.2 Project Location: 1-OPA



Figure 3.3 Project Locations: 2-OPA, 3-OPA, 4-OPA, and 17-OPA

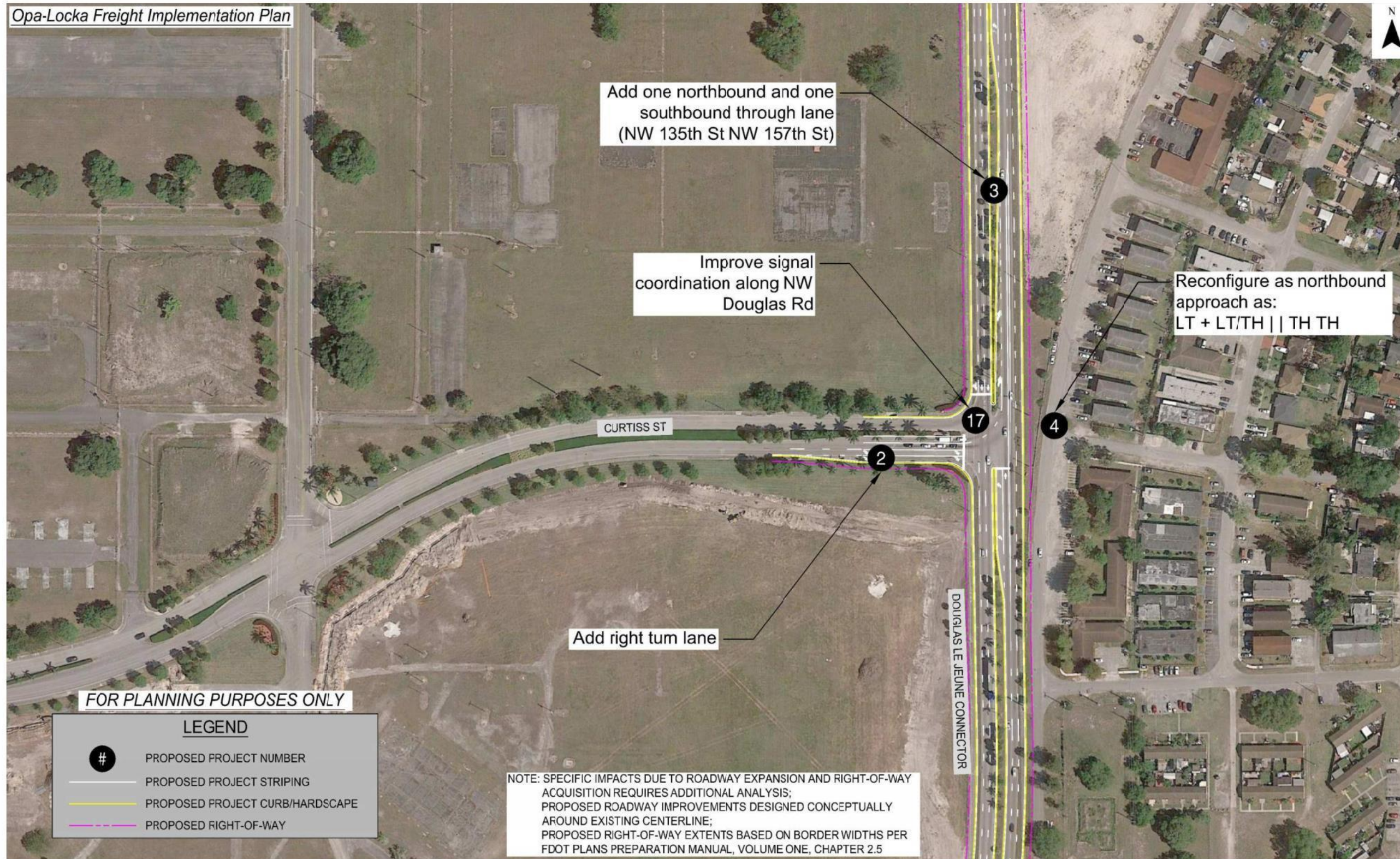


Figure 3.5 Project Locations: 8-OPA, 9-OPA, 17-OPA, and 19-OPA

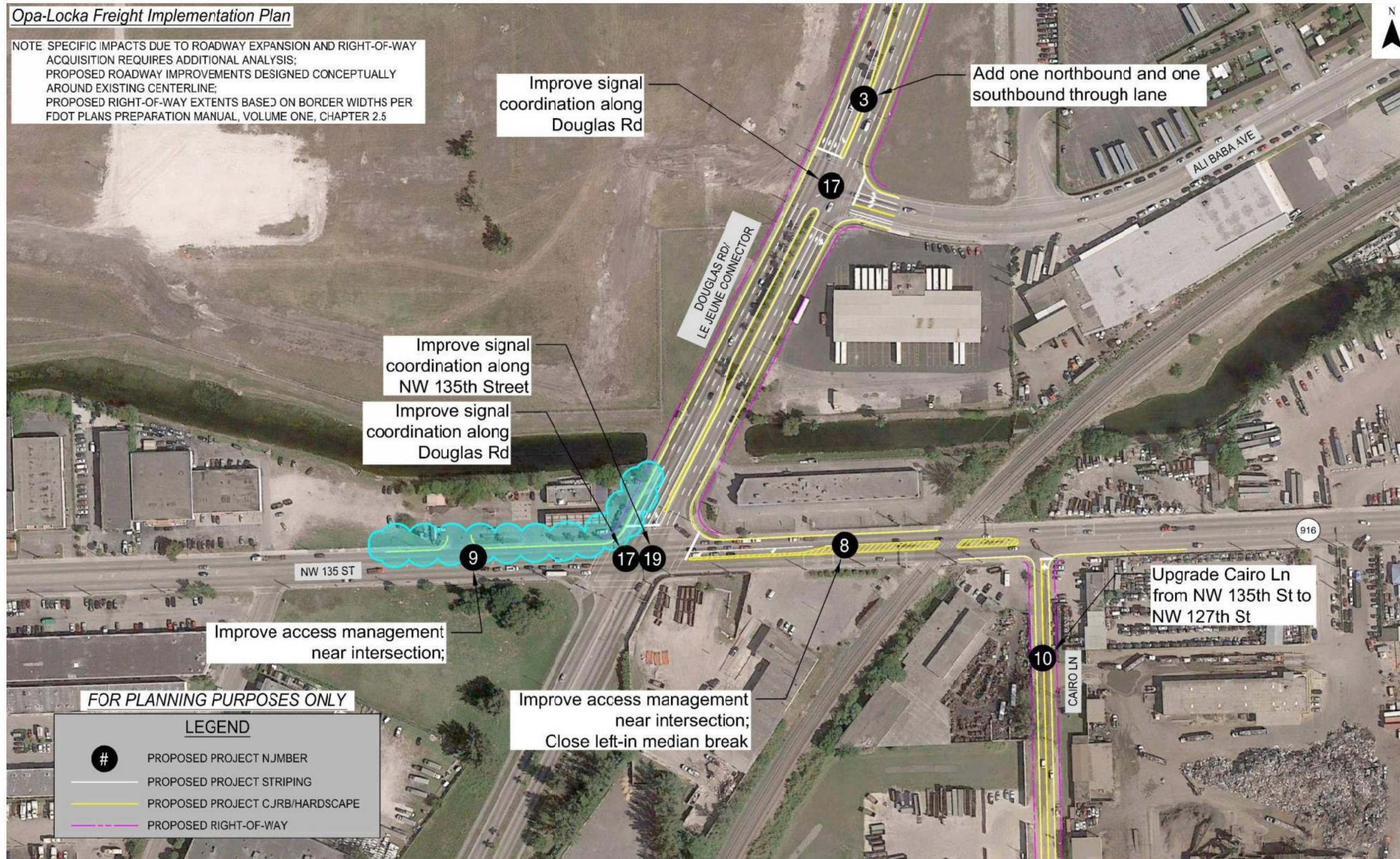


Figure 3.6 Project Location: 10-OPA



Figure 3.7 Project Location: 11-OPA



Figure 3.8 Project Locations: 12-OPA, 13-OPA, 14-OPA, and 20-OPA

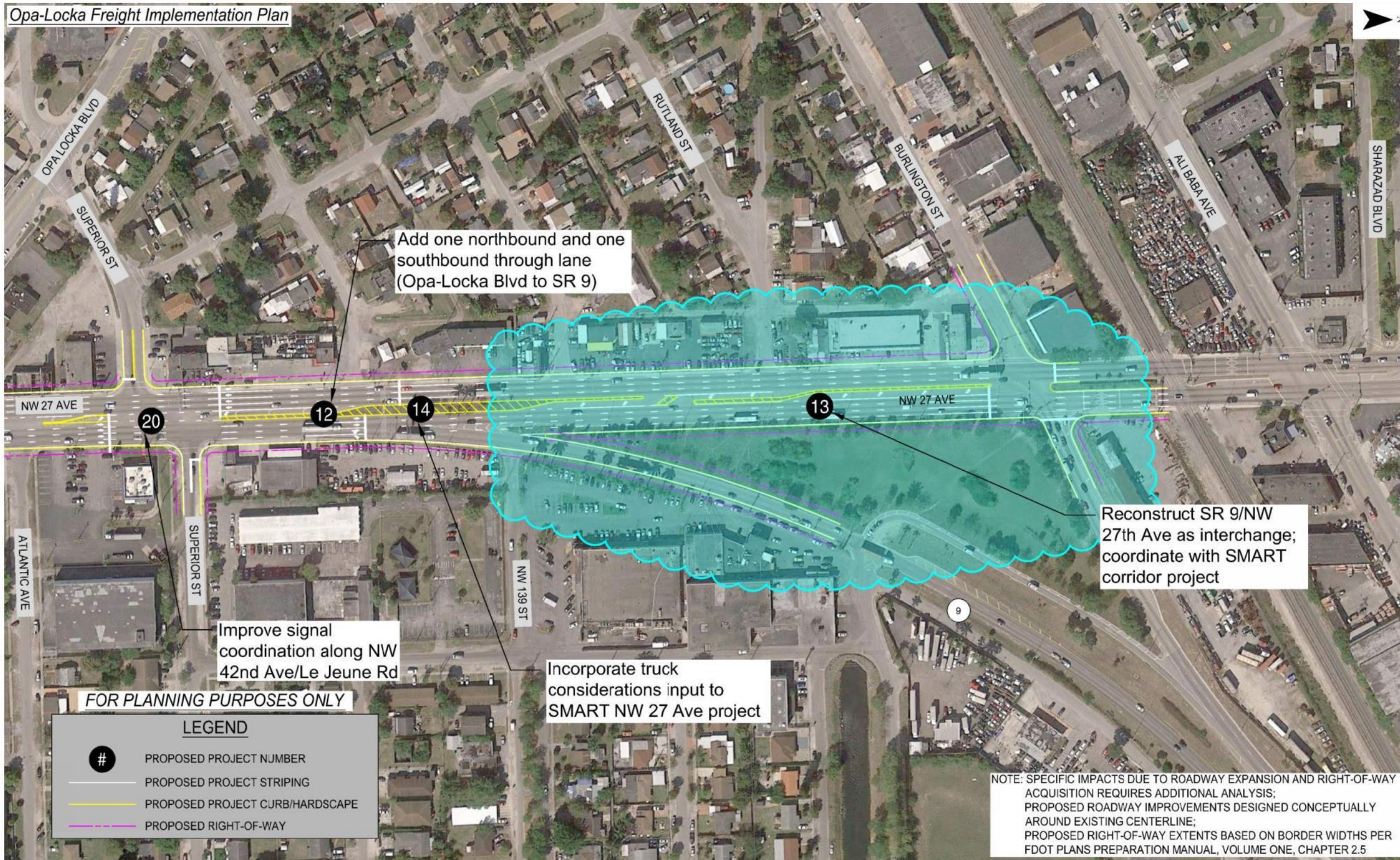


Figure 3.9 Project Locations: 12-OPA, 20-OPA, and 22-OPA

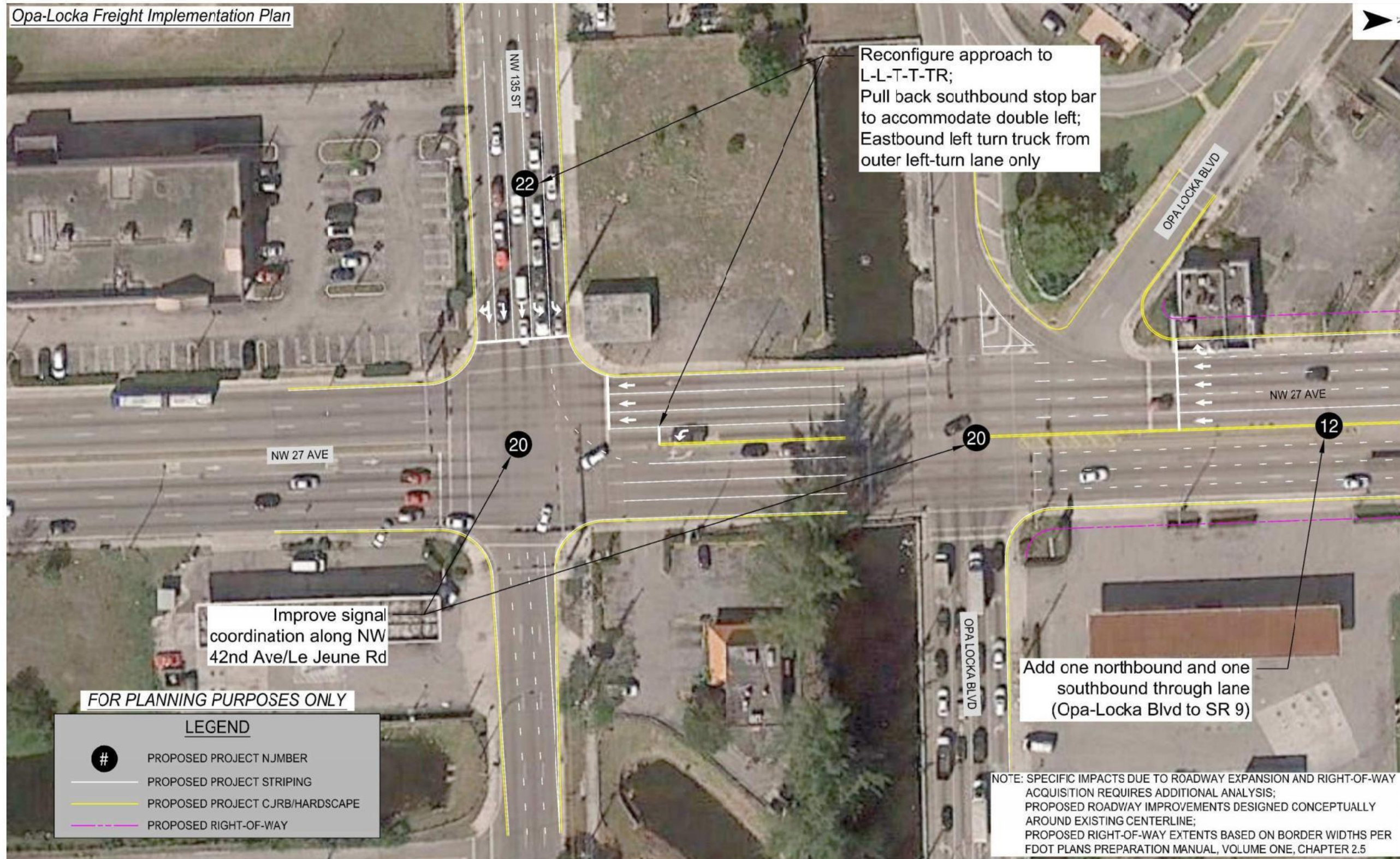


Figure 3.10 Project Locations: 15-OPA, 16-OPA, and 21-OPA

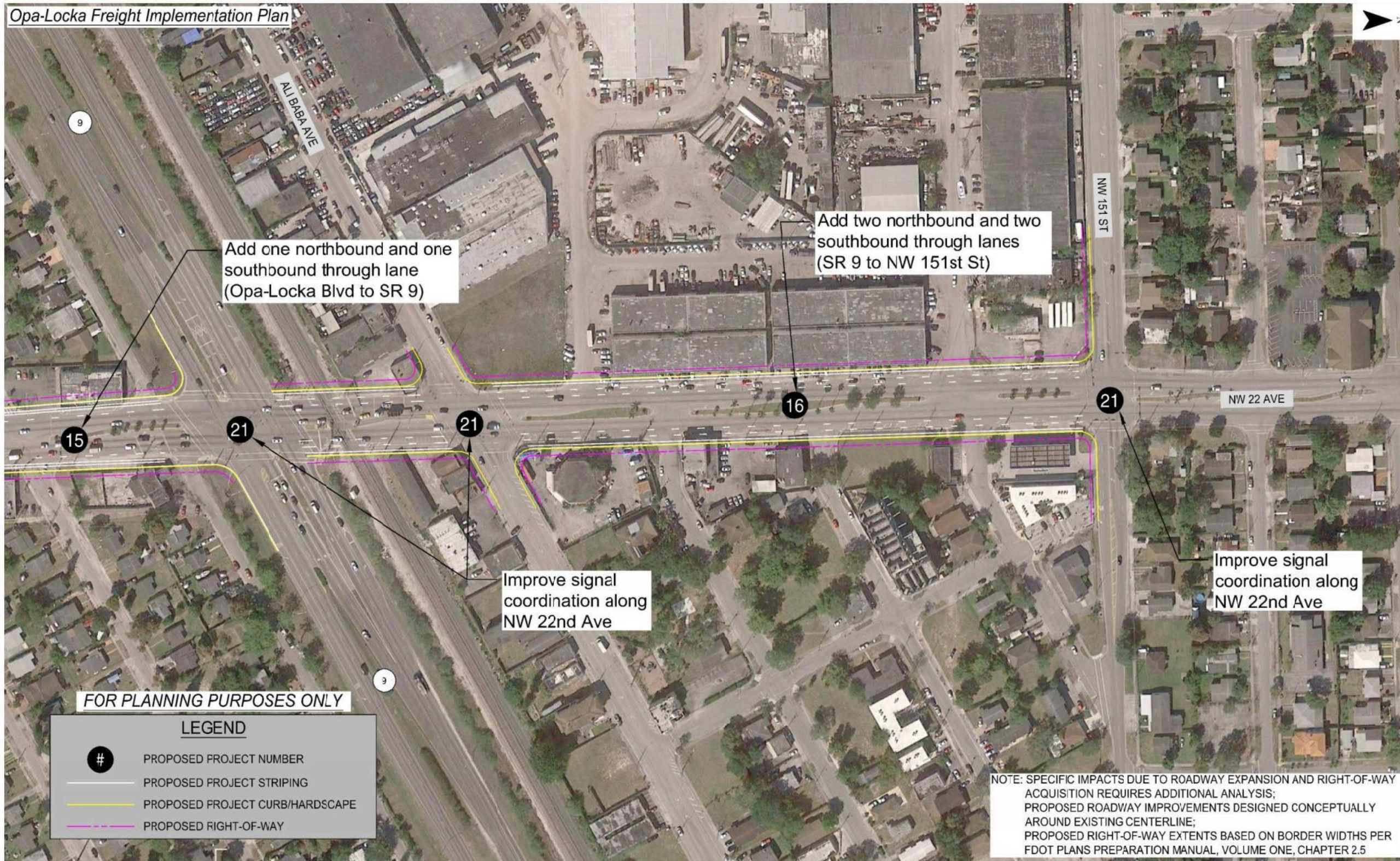


Figure 3.11 Project Locations: 15-OPA and 21-OPA



3.5 Area of Interest Environmental Screening

As a planning level study, Area of Interest environmental screenings were performed on the 22 corridor projects identified above. A summary of the results is provided in Table 3.8. The first six projects, located in the vicinity of OPF, are coded in blue text. Since the City of Opa-locka is industrial in character, it is not surprising that the screenings flagged multiple projects with contaminated sites, petroleum contamination monitoring sites, and hazardous waste facilities. As an early incorporated neighborhood in Miami-Dade County, many of the structures were built in the 1970s or earlier. Some of the projects also have the potential for storm water considerations given their locations in flood zones. The full set of reports is provided in Appendix D.

Table 3.8 Synopsis of Environmental Conditions

Category	Analysis Type	Opa-locka Project Number																					
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Contamination	Biomedical Waste	0	0	0	0	0	0	1	1	0	0	0	0	1	0	0	0	4	1	1	0	0	
	DERM Contaminated Sites in Miami-Dade County	4	0	0	0	3	3	3	2	3	14	1	6	1	17	1	3	0	4	12	17	4	6
	DFIRM 100-Year Flood Plain	1	0	4	0	3	4	4	4	3	4	7	2	0	5	2	0	8	8	7	5	2	3
	DFIRM Flood Hazard Zones	3	1	10	1	4	5	7	8	8	9	9	5	2	10	7	2	18	11	16	10	7	5
	DRASTIC Coverage for the Surficial Aquifer System	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	1	1	1	2	2	2	1
	FDEP Dry Cleaning Program Sites	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
	FDEP Off Site Contamination Notices	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	Hazardous Waste Facilities	1	0	2	0	3	3	11	9	5	4	1	1	0	8	2	7	6	14	19	8	9	0
	Onsite Sewage	0	0	8	1	4	1	6	1	0	3	0	2	0	11	2	10	2	6	23	11	11	9
	Petroleum Contamination Monitoring Sites	1	0	4	0	5	4	5	7	3	5	1	10	2	17	5	8	4	9	17	17	10	6
	Solid Waste Facilities	0	0	3	0	0	0	0	3	3	7	2	0	0	0	0	3	0	5	0	0	0	0
	Special Flood Hazard Areas	1	0	2	0	1	1	1	1	1	2	1	2	0	2	1	0	1	1	4	2	1	2
	Super Act Risk Sources	0	0	2	0	3	3	3	3	3	1	0	5	1	11	2	4	3	5	8	11	6	3
	Superfund Hazardous Waste Sites	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	Toxic Release Inventory Sites	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	1	5	0	0	0	1	0
	Waste Cleanup Responsible Party Sites - Closed	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	0	0	1	1	2	1
Waste Cleanup Responsible Party Sites - Open	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	
Historic Site	D6 - Year Built by Decade (1970's)	0	2	11	3	3	3	5	6	4	6	1	3	0	12	12	12	7	8	27	12	21	6
	D6 - Year Built by Decade (Before 1970)	1	7	27	11	5	5	6	12	9	9	0	39	8	131	46	62	23	6	138	131	91	27
Rec	Parks and Recreational Facilities (Points)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Section 4f	Florida Site File Archaeological or Historic Sites	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Florida Site File Field Survey Project Boundaries	8	9	15	9	10	9	10	13	10	9	7	5	3	9	5	6	16	13	16	9	7	5
	Florida Site File Historic Standing Structures	0	0	0	0	0	0	0	0	0	0	0	24	0	61	2	3	0	0	2	61	3	2
	Florida Site File Resource Groups	1	1	4	1	1	0	1	2	2	1	1	1	0	2	1	1	3	1	3	2	1	1
	Florida Species Observations 2007	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Social	American Indian Lands and Native Entities In Florida	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Brownfield Location Boundaries	0	0	2	0	1	1	1	1	1	2	2	2	1	3	2	2	3	2	3	3	3	2
	Community Centers (Points)	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	0
	FDEM Places of Worship	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
	Geocoded Schools	0	0	0	0	0	0	0	0	0	0	0	1	0	2	1	0	0	0	4	2	1	1
	Religious Centers (Points)	0	0	1	0	0	0	0	0	0	0	0	0	0	3	2	6	1	0	5	3	7	1

Projects 1-6, shown in blue text, are those in proximity to the Miami-Opa Locka Executive Airport

Source: FDOT District 6 Area of Interest Screening. Cambridge Systematics.

3.6 Results

The 2040 Build analysis (also called mitigated conditions) included link LOS analysis (Trend, Moderate, High, and Most Likely) and peak hour intersection operational analysis (Most Likely only). The 22 projects identified above and the FDOT, MPO, and City planned and programmed projects were considered when assessing the future mitigated conditions.

Roadway segment LOS is summarized in Table 3.9. Note that proposed projects are designed to accommodate the Most Likely conditions. The proposed projects show a benefit in addressing level of service issues due to increased traffic projections. Even so, the segment of Douglas/Le Jeune Connector between Langley and NW 151st Street is expected to operate at LOS F for the 2040 Most Likely condition.

A summary of intersection LOS and delay for 2040 mitigated Most Likely scenario is provided in Table 3.10. The conditions along 22nd Avenue are projected to be congested for the majority of the corridor. Similarly, some intersections on 27th Avenue and Douglas/Le Jeune Connector will experience significant delay. Proposed projects along Douglas/Le Jeune Connector significantly improve the operational conditions along the stretch north of NW 135th Street. Other locations, such as NW 42nd Avenue at NW 135th Street, and Douglas/Le Jeune Connector south of NW 135th Street, are projected to show moderate to significant delay reduction (from more delay to less delay even though the intersection would operate at LOS F).

Table 3.9 2040 Mitigated Conditions for Trend, Moderate, High Scenarios and Most Likely Alternative

#	Roadway	From	To	LOS Std [*]	2040 Trend Traffic Volume and LOS				2040 Moderate Traffic Volume and LOS				2040 High Traffic Volume and LOS				2040 Most Likely Traffic Volume and LOS			
					Proj. AADT ²	LOS Daily ³	Peak Hr/ Peak Dir. Est ⁴	LOS Peak Hour ⁵	Proj. AADT ²	LOS Daily ³	Peak Hr/ Peak Dir. Est ⁴	LOS Peak Hour ⁵	Proj. AADT ²	LOS Daily ³	Peak Hr/ Peak Dir. Est ⁴	LOS Peak Hour ⁵	Proj. AADT ²	LOS Daily ³	Peak Hr/ Peak Dir. Est ⁴	LOS Peak Hour ⁵
1	NW 42 nd Ave/Le Jeune Rd	E 56 th St	E 65 th St	D	21,100	C	1,040	C	23,000	C	1,250	C	24,100	C	1,380	C	23,000	C	1,250	C
2	NW 42 nd Ave/Le Jeune Rd	E 65 th St	SR-916 (NW 135 th St)	D	25,900	C	1,280	C	28,500	C	1,600	C	30,300	C	1,810	C	28,400	C	1,580	C
3	NW 42 nd Ave/Le Jeune Rd	SR-916 (NW 135 th St)	Curtiss St	E	8,000	C	410	C	13,200	D	930	D	15,400	D	1,200	D	13,500	D	940	D
4	Douglas/Le Jeune Connector	Le Jeune Rd	SR-916 (NW 135 th St)	E	39,200	C	1,940	C	42,100	C	2,220	C	44,200	C	2,430	C	42,000	C	2,200	C
5	Douglas/Le Jeune Connector	NW 135 th St	Ali Baba Ave	E	41,700	C	1,620	C	46,300	C	2,140	C	48,400	C	2,430	C	46,400	C	2,140	C
6	Douglas/Le Jeune Connector	Ali Baba Ave	Curtiss St	E	41,600	C	1,920	C	46,200	C	2,420	C	48,200	C	2,700	C	46,300	C	2,420	C
7	Douglas/Le Jeune Connector	Curtiss St	NW 151 st St	E	41,600	C	1,920	C	49,500	C	3,020	D	53,000	C	3,600	F	49,800	C	3,030	F
8	NW 32 nd Ave	NW 119 th St	SR-916 (NW 135 th St)	E	24,000	C	1,240	C	24,200	C	1,270	C	24,300	C	1,290	C	24,200	C	1,270	C
9	NW 27 th Ave/SR-9/SR-820	NW 119 th St	SR-916 (Opa-Locka Blvd)	D	48,700	C	2,400	C	49,200	C	2,450	C	49,400	C	2,480	C	49,200	C	2,460	C
10	NW 27 th Ave/SR-9/SR-820	SR-916 (Opa-Locka Blvd)	SR-9 Ramp	D	66,200	C	3,270	C	66,700	C	3,320	C	67,100	C	3,370	C	66,600	C	3,310	C
11	NW 27 th Ave/SR-9/SR-820	SR-9 Ramp	Ali Baba Ave	D	44,100	D	2,180	D	44,500	D	2,220	D	44,700	D	2,240	D	44,500	D	2,220	D
12	NW 27 th Ave/SR-9/SR-820	Ali Baba Ave	NW 151 st St	D	39,100	D	1,930	D	39,500	D	1,980	D	39,700	D	2,010	D	39,500	D	1,980	D
13	SR-9	NW 27 th Ave	NW 22 nd Ave	D	9,400	C	450	C	9,500	C	460	C	9,800	C	490	C	9,400	C	450	C
14	SR-9	NW 22 nd Ave	NW 159 th St	D	29,400	C	1,400	C	30,700	C	1,540	C	31,600	C	1,640	C	30,700	C	1,530	C
15	SR-9	NW 159 th St	Golden Glades Interchange	D	35,100	C	1,740	C	36,500	C	1,870	C	37,300	C	1,980	C	36,400	C	1,870	C
16	NW 22 nd Ave	NW 119 th St	NW 135 th St (Opa-Locka Blvd)	E	31,900	C	1,650	C	32,000	C	1,670	C	32,100	C	1,680	C	32,000	C	1,670	C
17	NW 22 nd Ave	NW 135 th St (Opa-Locka Blvd)	SR-9	E	53,500	C	2,270	C	53,900	C	2,310	C	54,200	C	2,350	C	53,900	C	2,300	C
18	NW 22 nd Ave	SR-9	NW 151 st St	E	60,400	C	2,830	C	61,400	C	2,940	C	61,900	C	2,990	C	61,500	C	2,940	C
19	NW 151 st St	Douglas/Le Jeune Connector	NW 27 th Ave	E	11,400	C	590	C	15,000	D	970	D	16,400	D	1,160	D	15,100	D	970	D
20	NW 151 st St	NW 27 th Ave	NW 22 nd Ave	E	13,900	D	590	C	14,300	D	640	C	14,500	D	660	D	14,300	D	640	C
21	Curtiss St	NW 42 nd Ave	Douglas/Le Jeune Connector	E	8,400	C	440	C	17,600	D	1,410	D	21,500	D	1,920	F	18,100	D	1,430	D
22	Ali Baba Ave	Douglas/Le Jeune Connector	NW 27 th Ave	E	5,000	C	260	C	5,800	C	350	D	6,200	C	390	D	5,900	C	350	D
23	Ali Baba Ave	NW 27 th Ave	NW 22 nd Ave	E	3,200	C	170	C	4,000	C	250	C	4,300	C	290	C	4,000	C	250	C
24	SR-916 (NW 135 th St)	NW 57 th Ave/Red Road	Le Jeune Rd	D	33,500	C	1,660	C	36,200	C	1,930	D	37,700	C	2,110	F	36,100	C	1,920	D
25	SR-916 (NW 135 th St)	Le Jeune Rd	Douglas/Le Jeune Connector	D	24,400	C	1,210	C	26,500	C	1,410	C	27,800	C	1,540	C	26,400	C	1,400	C
26	SR-916 (NW 135 th St)	Douglas/Le Jeune Connector	NW 27 th Ave	D	24,700	C	1,240	C	28,100	C	1,610	C	30,000	C	1,840	C	28,100	C	1,590	C
27	SR-916 (NW 135 th St)	NW 27 th Ave	NW 22 nd Ave	D	24,100	C	1,200	C	26,100	C	1,410	C	27,100	C	1,540	C	26,100	C	1,400	C
28	SR-924 (Gratigny Parkway)	NW 57 th Ave/Red Road	Douglas/Le Jeune Connector	D	53,800	C	2,510	C	56,000	C	2,710	C	57,100	C	2,810	C	56,000	C	2,710	C
29	NW 119 th St/E 65 th St	Douglas/Le Jeune Connector	NW 27 th Ave	E	13,000	C	670	C	13,100	C	680	C	13,200	C	690	C	13,000	C	670	C
30	E 65 th St	Le Jeune Rd	Douglas/Le Jeune Connector	E	13,200	C	680	C	13,400	C	710	C	13,500	C	730	C	13,400	C	710	C

Notes

*LOS Std = Segment-level LOS standard based on facility type per 2012 FDOT Generalized Service Volume Tables

¹FDOT AADT - AADT taken from FDOT traffic counters

²Proj. AADT - AADT projected assuming given scenario assumptions

³LOS Daily - Segment-level LOS derived existing facility type and projected AADT

⁴Peak Hr/ Peak Dir. Est - PM peak hour, peak direction volume projected assuming given scenario assumptions

⁵LOS Peak Hour - Segment-level LOS derived existing facility type and projected PM peak hour, peak direction volume

PM Peak hour was selected after sensitivity analysis was conducted to determine which peak hour (AM or PM) added the highest volumes to the network.

Source: Cambridge Systematics.

Table 3.10 2040 Most Likely Alternative Baseline (Unmitigated) vs Mitigated Intersection LOS and Delay

#	Intersection	2040 Future Unmitigated LOS and Delay				2040 Future Mitigated LOS and Delay			
		AM		PM		AM		PM	
		LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)
1	NW 42 nd Ave and Douglas/Le Jeune Connector	C	20.8	D	47	C	23.2	D	40.7
2	NW 42 nd Ave and E 65 th St	D	41.8	E	71.4	D	48.2	E	62.8
3	NW 42 nd Ave and NW 135 th St	F	188.7	F	170.7	F	124.8	F	129.2
4	NW 42 nd Ave and Curtiss St	C	32.1	D	37.2	C	24.9	D	37.3
5	Douglas/Le Jeune Connector and E 65 th St	F	144.4	F	113.5	F	127.8	F	108.6
6	Douglas/Le Jeune Connector and WB Gratigny Pkwy	F	99.9	F	91.3	F	95.6	F	83.1
7	Douglas/Le Jeune Connector and NW 135 th St	F	172.4	F	238	F	137.9	F	210.9
8	Douglas/Le Jeune Connector and Ali Baba Ave	F	139.6	E	58	A	8.3	A	7.6
9	Douglas/Le Jeune Connector and Langley Rd	F	270.3	F	287.1	D	46	D	50.2
10	Douglas/Le Jeune Connector and NW 151 st St	F	102.9	F	165.9	D	37.7	E	58
11	NW 27 th Ave and EB NW 135 th St	D	38.7	D	38.8	D	38.5	C	32.4
12	NW 27 th Ave and WB Opa-locka Blvd	E	62.9	E	56.9	E	65.3	C	33.7
13	NW 27 th Ave and Burlington St	F	170.2	C	26.2	F	100.2	B	19.2
14	NW 27 th Ave and Ali Baba Ave	E	63	B	14.5	D	51.1	B	10.3
15	NW 27 th Ave and NW 151 st St	F	172.7	E	66.4	F	159.5	E	64.9
16	NW 22 nd Ave and EB NW 135 th St	F	131.2	F	140.4	F	121.2	F	129.6
17	NW 22 nd Ave and WB Opa-locka Blvd	F	140.9	F	145.8	E	73	F	88.2
18	NW 22 nd Ave and SR-9	F	195.3	F	229.6	F	165.4	F	136.8
19	NW 22 nd Ave and Ali Baba Ave	F	87.3	E	61.2	F	81.9	A	9.6
20	NW 22 nd Ave and NW 151 st St	F	179.3	F	132.7	F	100.5	E	55.7

Source: Cambridge Systematics.

4.0 Recommendations

This section presents an overview of opportunities and challenges; recommended short, medium, and long term improvement projects; and other recommendations focused on broader initiatives designed to support freight mobility, economic development, and quality of life. For this Plan, short term improvements are those that can be initiated immediately; medium term improvements reflect improvements that could be put in place in approximately five years; and long term improvements assume ten years or longer.

4.1 Overview

Table 4.1 provides an overview of Opa-locka’s opportunities and challenges. The City is well positioned geographically, has a well-defined transportation system, has a strong history of industrial activity, and will be home to a new Amazon facility that has the potential to dramatically impact this area. The City also has some significant challenges with an inventory of dated or obsolete real estate, infrastructure and utilities in poor condition, limited developable land, and a bankrupt local government with high tax rates. The improvement projects and recommendations developed as part of this Plan are designed to help take advantage of the opportunities and mitigate the challenges.

Table 4.1 Key Opportunities and Challenges

Opportunities	Challenges
<ul style="list-style-type: none"> Efficient roadway connections to regional network 	<ul style="list-style-type: none"> Poor condition of infrastructure and utilities
<ul style="list-style-type: none"> Workforce development and employment 	<ul style="list-style-type: none"> Lack of workforce preparedness
<ul style="list-style-type: none"> Centralized location for market access 	<ul style="list-style-type: none"> Limited developable land
<ul style="list-style-type: none"> Amazon fulfillment center will create jobs and could serve as local business incubator 	<ul style="list-style-type: none"> Congestion/network failure from Amazon related traffic
<ul style="list-style-type: none"> Served by Class I railroad 	<ul style="list-style-type: none"> High crime rates
<ul style="list-style-type: none"> Served by a variety of transit options (bus and rail) 	<ul style="list-style-type: none"> City is bankrupt and has high tax rates
<ul style="list-style-type: none"> Airport with unused capacity/possibility for expanded aviation operations 	<ul style="list-style-type: none"> Competition from adjacent communities
<ul style="list-style-type: none"> Established heavy industrial base 	<ul style="list-style-type: none"> Numerous contaminated brownfield sites
<ul style="list-style-type: none"> Easternmost location for warehouse space 	<ul style="list-style-type: none"> Dated/obsolete warehouse spaces
<ul style="list-style-type: none"> Nearly half of the City is zoned industrial 	<ul style="list-style-type: none"> Community opposition to industrial development

4.2 Short Term Projects

Table 4.2 lists the recommended short term improvement projects. These projects address capacity and operational improvements identified in close proximity to the Miami-Opa Locka Executive Airport necessary to handle traffic generated by the Amazon fulfillment center. This center currently is under construction making these recommended improvements short term. Other short term projects largely include operational improvements at the corridor level.

Table 4.2 Short Term Improvement Projects

Map ID	Name	Project Cost (000s, 2016)	Project Type	Description	Location
1	Curtiss St/NW 42 nd Ave	\$86	Arterial/Collector	Extend left turn storage lane to 1,000 feet on Curtiss St at WB approach to NW 42 nd Ave; close median at Musick St	Curtiss St. from NW 42 nd Ave east 1,000 feet
2	Curtiss St/Douglas Rd	\$145	Arterial/Collector	Add additional EB right turn lane at Curtiss St and Douglas Rd	Curtiss St at Douglas Rd
3	Douglas Rd Lanes	\$2,866	Arterial/Collector	Add two additional through lanes on Douglas Rd from 135 th St to 157 th St	Douglas Rd from 135 th St to 157 th St
4	Douglas Rd Turbo	Combined with #3	Arterial/Collector	Convert one NB through lane to a turbo through lane for NB traffic along Douglas Rd at Curtiss St	Douglas Rd South of Curtiss to North of Curtiss
5	NW 42 nd Ave/ 135 th St	\$901	Arterial/Collector	Add additional SB through lane and exclusive SB right turn lane at NW 42 nd Ave and 135 th St	NW 42 nd Ave at 135 th St
6	135 th St/ NW 42 nd Ave	Combined with #5	Arterial/Collector	Add additional receiving lane WB on 135 th St from NW 42 nd Ave SB right turn	135 th St West of NW 42 nd Ave
17	Douglas Rd Signals	\$56	Operations	Improve signal coordination along Douglas Rd	Douglas Rd in Opa-locka
18	NW 42 nd Ave Signals	\$25	Operations	Improve signal coordination along NW 42 nd Ave/Le Jeune Rd	NW 42 nd Ave in Opa-locka
19	NW 135 th St Signals	\$113	Operations	Improve signal coordination along NW 135 th St	NW 135 th St In Opa-locka
20	NW 27 th Ave Signals	\$56	Operations	Improve signal coordination along NW 27 th Ave	NW 27 th Ave in Opa-locka
21	NW 22 nd Ave Signals	\$56	Operations	Improve signal coordination along NW 22 nd Ave	NW 22 nd Ave in Opa-locka
22	EB 135 th and NW 27 th Ave	\$55	Operations	Change EB approach to 1 shared through right + 2 through + 2 left; sign to indicate EB trucks making LT to NB 27 th Ave use outer LT lane only; pull back SBLT stop line, add pavement marking to align new EB through and left turn traffic pattern	NW 135 th St and NW 27 th Ave

Source: Cambridge Systematics. Kittelson and Associates.

4.3 Medium Term Projects

Table 4.3 lists the recommended medium term improvement projects. These projects consist of access management improvements along NW 42nd Avenue, Douglas Road, and NW 135th Street in close proximity to the new Amazon facility; improved access to the Gratigny Parkway; and improvements to Cairo Lane and NW 127th Street.

Table 4.3 Medium Term Improvement Projects

Map ID	Name	Project Cost (000s, 2016)	Project Type	Description	Location
7	NW 42 nd Ave/ NW 135 th St Access	\$375	Arterial/ Collector	Reduce access/close driveways along intersection legs of NW 42 nd Ave/NW 135 th St	NW 42 nd Ave and NW 135 th St within 1000 feet of intersection
8	NW 135 th St	\$21	Arterial/ Collector	Improve access management along NW 135 th St from NW 42 nd Ave and raise median along NW 135 th St east of Douglas Rd to east of railroad to restrict business access	NW 135 th St
9	Douglas Rd/ NW 135 th St Access	\$125	Arterial/ Collector	Reduce access/close driveways along intersection legs of Douglas Rd/NW 135 th St	Douglas Rd and NW 135 th St within 1000 feet of intersection
10	Cairo Ln/ NW 127 th St	\$4,582	Arterial/ Collector	Upgrade Cairo Lane; complete and upgrade NW 127 th St from Cairo Ln to NW 32 nd Ave	Extent of Cairo Ln and NW 127 th St
11	Douglas/ Gratigny	\$31,250	Arterial/ Collector	Improve Le Jeune Rd/Douglas Rd access to/from Gratigny interchange	Douglas Rd/ Gratigny Access

Source: Cambridge Systematics. Kittelson and Associates.

4.4 Longer Term Projects

Table 4.4 lists the recommended long term improvement projects. These projects consist of new lanes, interchange reconstruction, and corridor level improvements.

Table 4.4 Long Term Improvement Projects

Map ID	Name	Project Cost (000s, 2016)	Project Type	Description	Location
12	NW 27 th Ave Lanes	\$1,543	Arterial/ Collector	Add two additional through lanes on NW 27 th Ave from Opa-locka Blvd to SR-9	NW 27 th Ave from Opa-locka Blvd to SR-9
13	SR-9/NW 27 th Ave Interchange	\$31,250	Arterial/ Collector	Reconstruct SR-9/NW 27 th Ave interchange (coordinate with SMART corridor project)	SR-9/NW 27 th Ave Interchange
14	NW 27 th Ave SMART Coordination	\$500*	Arterial/ Collector	Incorporate truck considerations input to SMART NW 27 th Ave project	NW 27 th Ave in Opa-locka project
15	NW 22 nd Ave 2 Lanes	\$4,828	Arterial/ Collector	Add two additional through lanes on NW 22 nd Ave from Opa-locka Blvd to SR-9	NW 22 nd Ave from Opa-locka Blvd to SR-9
16	NW 22 nd Ave 4 Lanes	\$1,960	Arterial/ Collector	Add four additional through lanes on NW 22 nd Ave from SR-9 to NW 151 st St	NW 22 nd Ave from SR-9 to NW 151 st St

* - A SMART corridor project is a major coordination effort that should address freight travel. A place holder of \$500,000 has been included to represent coordination and initial design work related to truck considerations.

Source: Cambridge Systematics. Kittelson and Associates.

4.5 Other Recommendations

In addition to specific roadway improvement projects, several other recommendations have been developed for consideration. These focus on city-wide or program-specific initiatives designed to improve freight mobility in the City and South Florida.

- **Implement security program at designated industrial areas.** Opa-locka has been plagued with crime, including vandalism and theft. In order to support local businesses, attract new businesses, and promote overall economic development, an area-specific security program should be developed. This would include characteristics such as improved lighting, additional fencing, controlled access, and increased patrols. This could be a business-driven collaboration with support from the City. The business community southwest of the Golden Glades interchange has successfully implemented a similar program using canals, expressways, a limited number of access points, and security patrols to create a safe business environment.
- **Develop a designated truck route network.** Opa-locka consists of a mix of industrial, commercial and residential communities. The City also experiences a significant volume of through truck traffic given its location and established roadway corridors. Today, the City has addressed truck traffic using roadway signs that restrict access along certain streets. A city-wide truck route program should be developed to ensure trucks have efficient access to origins/destinations while minimizing the impact on the community. This program would designate preferred truck routes while also restricting trucks in sensitive communities.
- **Capitalize on heavy industrial business opportunities.** Opa-locka is a unique community in South Florida providing a home for an established heavy industry base (e.g., scrap, recycling). While some communities attract consumer goods related distribution centers, Opa-locka should explore opportunities to grow its heavy industry base within defined areas.
- **Investigate innovative opportunities for brownfield redevelopment.** Opa-locka is home to many contaminated properties making redevelopment difficult in many instances. Given the pro-business environment in place in Florida and the U.S., the City and State should look for opportunities to streamline the process of cleaning and redeveloping properties of this type. This could include proposing new innovative approaches, investigating available grant programs, and partnering with private industry.
- **Expand operating authority of Miami-Opa Locka Executive Airport.** Today, the airport is not able to handle scheduled commercial passenger or cargo flights. Aircraft size are also limited. Given the location, facilities, and runway length and condition, this airport is a severely under-utilized County asset. Over the medium to longer term, the County should re-visit the feasibility of allowing the airport to compete for and handle passenger and cargo operations as a regional reliever to Miami International Airport.
- **Incentivize and support new truck parking facilities.** South Florida has a truck parking space deficit, particularly for over the road truck drivers. Opa-locka is home to several small truck parking facilities. Even so, the trucking community continues to demand greater capacity. The City, in partnership with the County and State, should explore opportunities to stimulate investments in truck parking facilities; this could entail leasing public lands, and streamlining business application efforts.

- **Identify, support and promote freight and logistics related workforce development programs.** High schools, trade schools, colleges and universities, and professional freight businesses and associations provide a variety of educational opportunities from internships, to certificates, to advanced degrees. The City, in partnership with the County and State, should work with the educational community to provide programs for local residents to stimulate employment opportunities. Developments like the Amazon fulfillment center will provide employment for skilled workforce; ensuring local residents have the necessary skills will be critical.
- **Coordinate with SMART corridor projects to ensure local needs are addressed.** The Miami-Dade TPO is advancing its Strategic Miami Area Rapid Transit (SMART) Plan. This Plan is designed to drive investments in the County's transit system and create a "world-class transit system that will support economic growth and competitiveness in the global arena." The North Corridor (#4) runs through the City along NW 27th Avenue. This is a key corridor for trucks, and is forecast to require increased capacity in the future. The City, County, and State should coordinate with the SMART program to ensure improvements to this corridor address truck mobility needs.
- **Preserve and expand access to rail served properties.** Opa-locka is served by CSX. CSX provides service along the SFRC. Today, there are few rail served properties in the boundaries of the City. The City, in partnership with the State (the owner of the SFRC), should work with CSX to preserve, and expand when possible, the limited remaining rail served sites.
- **Improve commuter access from Tri-Rail Station to Amazon facility.** With nearly one million square feet of warehouse space coming on-line at the new Amazon fulfillment facility at the Miami-Opa Locka Executive Airport, there will be an increased demand for accessible and connected routes for commuters. While many will use private auto to access the facility, improvements to the transit connections should also be considered. This could consist of new and improved bike and pedestrian facilities along Ali Baba Avenue and other surrounding streets from the station to the airport, as well as the reintroduction of a shuttle service.